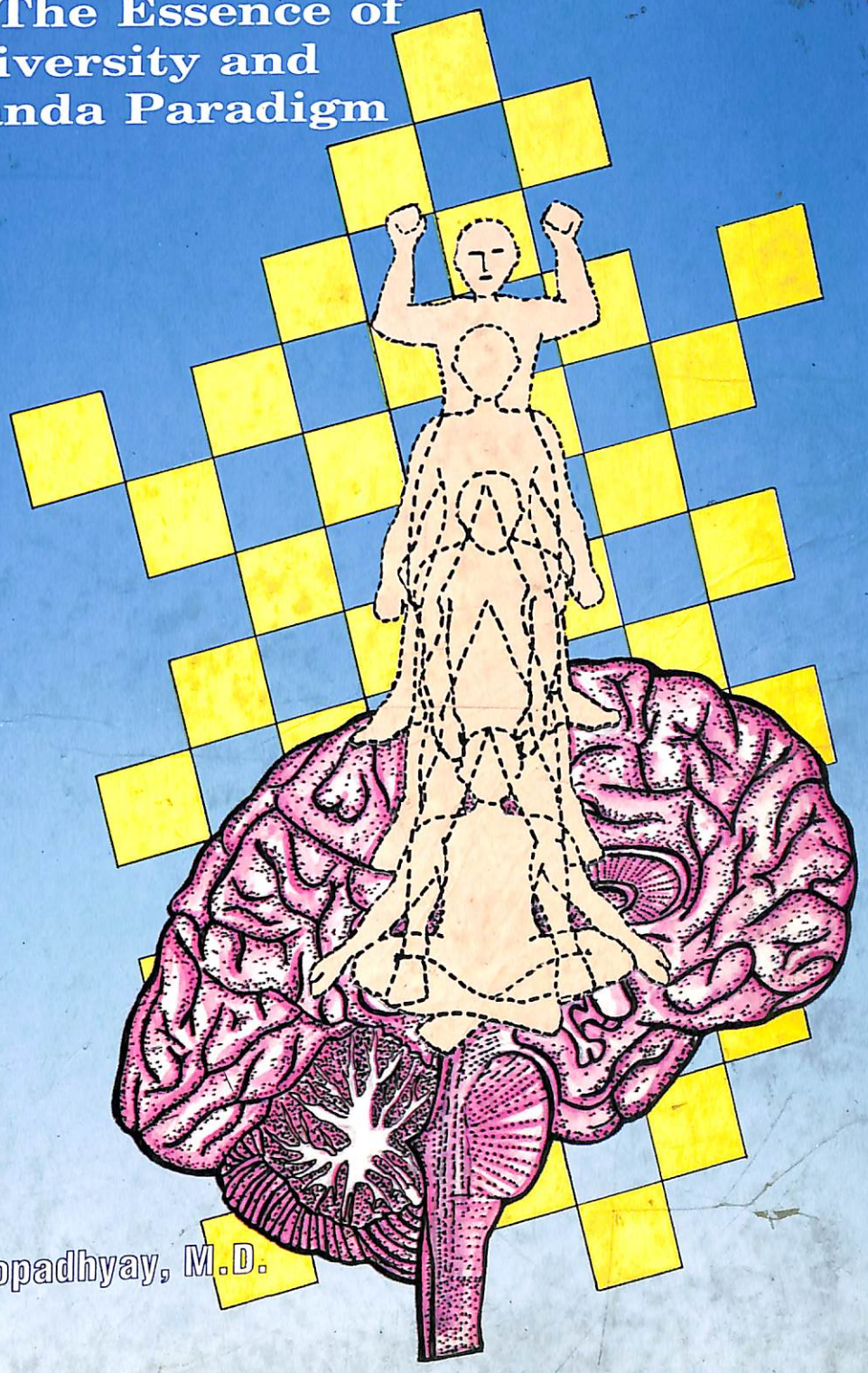
Conquering the Brain

Towards The Essence of The Multiversity and The Akhanda Paradigm



Dr. A. K. Mukhopadhyay, M.D.

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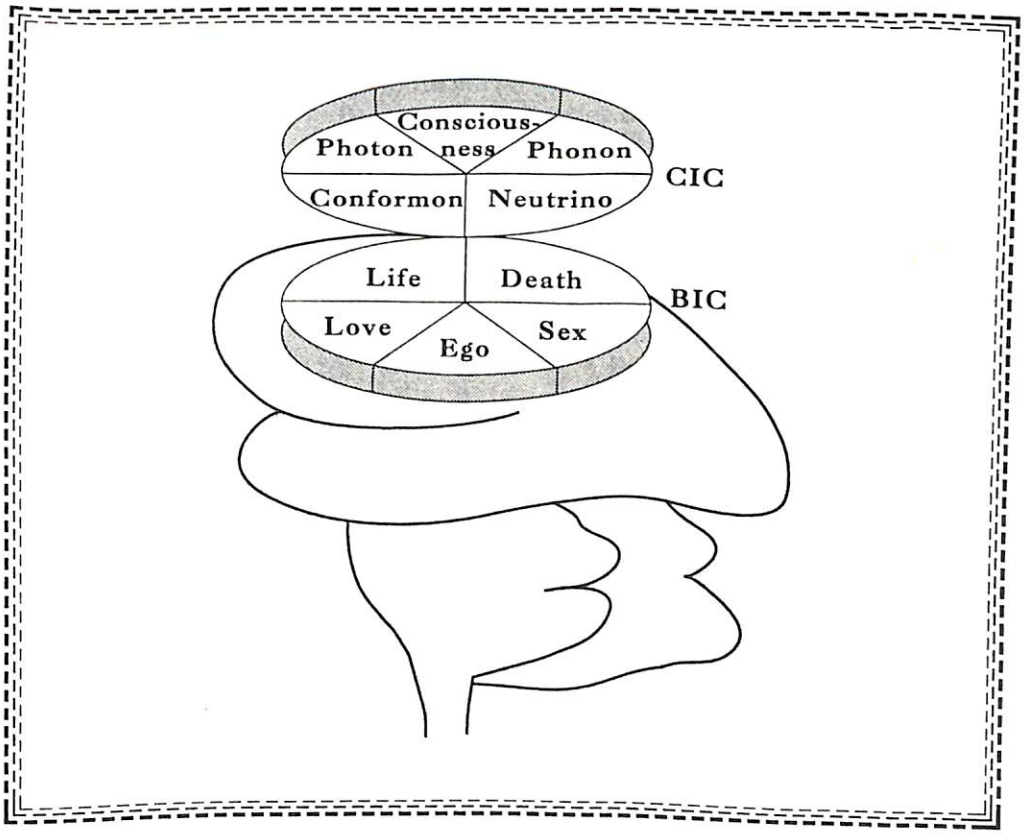

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DEDICATED TO THE MULTIVERSITY

"Nothing is more powerful than an idea whose Time has come."

- Victor Hugo

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These insights are mine, but they would not have seen the light of the day, if it had not been for

My Gurudev	:	*Whose CONSCIOUSNESS I am betsowed with.*
My Parents	:	*Whose GENES I inherit.*
My Relatives	:	*Whose LOVE and AFFECTION I cherish.*
My Teachers	:	*Whose GUIDANCE I remember.*
My Colleagues	:	*Whose CRITICISM I am fond of.*
My Friends	:	*Whose FRIENDSHIP I enjoy.*

FROM BRAINSTORM TO BOOK

Is it a storm? A cyclone? A typhoon? Call it what you may. Started in 1983, it continued over the decade. It destroyed the perishables, sustained the indestructible and strengthened the integrity of the brain. It initiated a new dynamics in my brain, the results of which are three brain-children, *Frontiers of Research for Human Biologists, Next Hundred Years*; *The Dynamic Web of Supracortical Consciousness*; and, *Conquering the Brain, Towards the Essence of the Multiversity and the Akhanda Paradigm*. Could a storm, cyclone or a typhoon do it? Whatever it may be, I find it inseparable from the Grace Phenomenon.

This decade has witnessed several remarkable national and international events in spiritual, political, economical and sociocultural planes. The story of the inner journey has also been punctuated with almost identical events. I acknowledge everybody who directly or indirectly, willingly or unwillingly, has been with me during this new formation.

I am indebted to the brim to Sri Sri MaMoni (Brahmacharini Samhita Devi, the Divine Successor of my Gurudev) for Her loving words, kind consort, and spiritual mentoring during this period.

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PREFACE

In this era of pluralism, this work holds the view of existence of multiple universe. The most appropriate plural for universe has been chosen here as multiverse. Multiple universe, the multiverse, at the highest plane forms a system called the Multiversity. The Essence of this Multiversity which makes this system an everopen process is Consciousness-Mother Nature. The picture of the universe as propagated by the scientists is a cortical construct and the concept of the Multiversity, to begin with, is transcortical, transuniversal, supracortical and supracosmic. In 1985, I coined the term and concept of supracortical consciousness. After a decade of metamorphosis it is felt that one moves forward to establish identity with this Essence only when one conquers the brain. Also it is felt that the brain is conquered during this process of establishing identity of human consciousness with the Essence of the Multiversity. Following this, one is within a new paradigm, the Akhanda Paradigm.

This opening to Consciousness-Mother Nature at the highest plane of cortex / universe is imperative during the critical period when fluctuation, instability, chaos, absence of order are apparent in individual, in society, in nation, in continent and when most of us are convinced that mere 'reform', 'conversion', 'mutation' or 'change' are useless to face the problems.

This, however, is the most exciting phase for science. Because the entire humanity stands erect at threshold of a new formation. The theatre on the earth is ready. Schopenhauer's 'die welt knoten' (world knot) has opened up. Plato's allegorical cave would no longer be there. At present the tip of the iceberg is only visible. The huge 'unconscious' on which the limited capacity conscious experience had been working so far, has awakened up. The human beings are conscious of unified oneness of human consciousness, cosmic consciousness and supracosmic consciousness. The preface of this work is being written at this critical juncture to welcome a new race, more complex, more organized with multiple new qualities, emerging through the present cortical beings out of conscious physical contact with the Essence of the Multiversity.

During such emergence of a new race, six identifiable hierarchical levels are as under; the brainstem being, the limbic being, the cortical being, the supracortical being, the supracortical godhead and the supracortical autonomy. The Great Chain of Being, it appears, has unfolded from a neurologist's horizon. This whole work is an exercise in the process of Becoming. This exercise leads us towards the 'Akhanda Paradigm' which holds the new humanity inseparable from the spirit and science.

The originator of the Akhanda Paradigm is Akhandamandaleshwar Sri Sri Swami Swarupananda Paramahansa Deva. He is present century's *Wonder*. He is a new creation on this earth and exemplifies a new beginning where a supracortical autonomy (sadguru) performs the works of a genius executive. The paradigm offered by Him, would be realized fully only after one conquers the brain. I find it appropriate to name this exercise of initial 'sciencing' of His blessings as 'Towards the Akhanda Paradigm'. This work is an outcome of a process of churning of information from the mountain-tops of different fields to find out a common ecosystem of consciousness. A conventional scientist may not find in it the linear logic of assumption, theorization, experimentation, observation, deduction and conclusions. He may miss the fact

that churning has its own sequence and consequences. To him, the work may appear as an unrelated association of some events and facts. The relationship which has been brought out in this work is a new formation and has been revealed after an extraordinary assumpmption. The present assumption in this paradigm is that the cerebral cortex 'receives' Grace from above. For the neuroscientists belonging to the existing paradigms, it is very difficult to swallow this assumption. Because for them, the cerebral cortex does not and cannot receive anything from abôve. For them, the Grace is so 'non-sensical', spiritual, philosophical, (?), that it cannot be received by the cerebral cortex. This is 'incommensurability of competing paradigms', as has already been pointed out by Thomas Kuhn.

Even the shrewdest observer may not find it easy to predict the potential of a new born baby as a warrior or a philosopher, a scientist or a mystic, but this intellectual unpredictability characterizes the complexity of the situation and its intriguing nature. A new born baby does have some filth, like amniotic fluid, membrane remnants, vernix on its body. That is one of the characteristics of its newness and one may find it in the present work too. I present this work to the scientific community with a feeling of its newness.

It is an immense task for the scientists to lay the foundation for transformation of the present human race to some newer Divine being in language of modern science. Far more responsibilities lie with the architects who have to be constantly on their toes for materialization of the Divinity. It is an extremely enjoyable hardship to break the iron curtain of existing conventions, to pick up broken metals and to build up a new sensible one. The paradigm of Consciousness-Mother Nature will be strengthened again and again through the efforts of every individual scientist and mystic, philosopher and worker, following they conquer their own brain.

The initial event for this is to choose the right signal from Noise. William Irwin Thompson, the new age cultural historian and founder of the Lindisfarne Association, defines Noise as 'an expression of the ignored and the unknown, of the irrelevant and the unvalued'. For a totally new culture to develop, one has to listen to the individual voices in preference to the hearing of institutions in phase of breakdown or fibrillation.

But where are those brains which can choose right signal amidst noise? Where are those individuals who will take up the job of exploring the 'Ever-unknowable'? Where are those minds who would love to suffer existential lysis for the sake of consciousness? Where are those seekers who can establish the existence of consciousness in rank materialism?

A common trend in scientific research today is to identify an anomaly, a disease, a paranormal, to explore its various details and then to extrapolate the results on the other end of the spectrum, on the 'normal', the 'health', and to offer a generalized statement. A thalassemic baby dies of congestive cardiac failure. The postmortem reveals heart loaded with iron. The conclusion is drawn that iron-heart is a weak heart and the advice is broadcasted in a national network - 'Iron is detrimental to heart' - ignoring the **context** altogether. Ignoring the **context,** most of the practitioners of Western medicine have been prolonging death of the patient instead of prolonging life. Moreover, the context of paranormal or metaphysical would not be understood unless the spectrum of the Whole normal is known.

The genesis of this new paradigm is to highlight 'the context', the humanity is meant for. Though an air tube was initially constructed for passage of air to and from the lungs, the imposition of the vocal chords has given it a new meaning. It is also meant for expression of language, for dramatizing it artistically, for motivating others, for singing a melody. The art of

singing is one of the finest ways of establishing communion with God! Similarly, the brain which was initially constructed for information processing and responsivity out of signals only arising from exteroceptors and enteroceptors, following development of biological integration centre, starts evolving along the Great Chain of Being. Then, no longer the outside reference system (meta system) remains limited by constants of Einstein (velocity of light), Max Planck (Planck's constant) or Prigogine (Entropy Barrier). The meta system is being biologized in the instinct of the being as the Essence of the Multiversity. Not only the brain behaves as the sounding board of the vibrations of the universe but also is actively involved in deciding the curriculum vitae of the universe it belongs to.

The present-day-scientist's last frontier is human mind. When this mind is explored in context of Consciousness, new principles of physics are bound to come up and this is what precisely has happened in this work. Mother Nature has unveiled Her introductory beauty in every petal of this lotus.

According to this work the brain and the universe are inseparable Whole. Their communication is not only through the conventional peripheral end organs and nerves but also through the cortico-supracortical love play. This supreme romance is not only the gateway for Divine treasures of feelings, experiences and realizations, but also it does impart the information processing system of the brain its uniqueness.

This information processing and responsivity of the brain become pure, perfect, harmonious and blissful only when the brain is elevated to the State of Grace. By this, it is meant that the brain processes information and responds in such a way that hemispherical bias is nil, stair-asynchrony is absent and there is cosmocortical harmony. The Divinity is personified in that brain. When the cells of the sole of the foot become aware of that their neural representatives in the cerebral cortex have achieved supracosmic synchronization, then only 'supracosmic' things becomes 'earthly'. This process has been called Akhandification.

Transcendentalist emphasizes on transcendental aspect of consciousness and pantheists on its immanent aspect. Perennial philosopher takes note of both. The Akhanda is a personification of transcendental, immanent and transformative aspects of consciousness and is destined for new creations. This happens only when the brain remains ever-elevated at the State of Grace.

To elevate the brain to the State of Grace, one needs to transcend death and to establish a new life-line. The hemispherical inequanimity, stair asynchrony and cosmocortical disharmony vanish only then. The development of biological integration centre is the first milestone on the way. Next follows the biologization of Mother Nature.

During such supracortical transformation Mother Nature imparts Wisdom, Height, Beauty and Perfection. She also brings purity, perfection, harmony and bliss in the mechanics of information processing and responsivity of the brain. We seek Her blessings at the beginning of our adventure in Consciousness.

Tuesday, 13th June, 1995.
Gemini Full Moon,
World Invocation Day.
New Delhi.

Dr. A. K. Mukhopadhyay.

PROLOGUE

The word 'Multiversity' has been originally coined by Akhandamandaleshwar Sri Sri Swami Swarupananda Paramahansa Dev, an astounding Supracortical Autonomy (Sadguru), long before the author of this work was physically born. At the spritual cpaital of India, Varanasi, He established the *Ayachak Ashram* which, in fact, was initially founded in 1927 at the village of Pupunki, in the state of Bihar, India, now near Bokharo Steel Plant. The activities of the Ashram were shifted and concentrated gradually at Varanasi and as an extraordinary expression of His holistic programme chalked out for three centuries ahead, the seed of a centre for human resource development continued to germinate and grow at Pupunki, as *The Multiversity*. On the New Year day of 1974, the Multiversity was formally opened by His holiness during a historical congregation. On the same occasion, Brahmacharini Samhita Devi, was declared to be the successor of all Powers and Forces, Swami Swarupananda Paramahansa Dev possessed. She is the Divine Mother of the Multiversity, Sri Sri MaMoni for millions of devotees.

This background material is essential for knowing the genesis of this work. It is very very difficult for a cortical person to say anything about a Supracortical Autonomy who prefers to remain an executive for Divine Materialism. The field is left open for exploration. The blessings and love I have had from my Gurudev, and now having from Sri Sri MaMoni, are determinants of my train of thoughts and interconnected concepts of philosophy, physics and neuroscience. Infact, I became aware of the dynamic web of supracortical consciousness only after the great transit of my Gurudev in 1984.

To me the human being and its cellular components are integral process of a dynamic web of supracortical consciousness. One of the inevitable outcomes of such a process is the birth of new linguistic expression and new terminologies. This explains the vibrant poetic expressions in many chapters of *The Dynamic Web of Supracortical Consciousness* and in *Conquering the Brain*. Though in this work, with profound gratitude and humbleness I have used some of the terms and concepts originally coined by Sri Aurobindo (like State of Grace, Supreme Consummation, Divine Materialism etc.) there are also coining of some new terms and concepts, like SCC (Supracortical Consciousness), NPT (Neurological Pleasure Triangle), CPT (Cosmological Pleasure Triangle), BIC (Biological Integration Centre), CIC (Cosmic Integration Centre) etc. In the same note the concept of Mother Nature as executive front of Consciousness is a new discovery.

'Towards the Essence of The Multiversity' has crystallized following my earlier work, *'The Dynamic Web of Supracortical Consciousness or Neurobiology, Neuroscience and Neuropsychology of Twentyfirst Century'*. Of the several original frontiers opened up there, it is worthwhile to mention only a few before we start chapters in this book.

1. The cerebral cortex is seen as a 'receptor'. It receives 'Grace' from above. As photon is being received by retina, so the 'Supracosmic Force' is being received by cerebral cortex. Then, the whole neuraxis is like an inverted tree with its root in the eternity and branches are down the peripheral nervous system. The Grace-cortex interaction is the prime frontier of research in neurophysics.

2. What is this 'Grace' ? Mother Nature and Grace are identical. The executive front of Consciousness is the Grace. Could this be translated in language of physics and cosmology? How has this physical Force been influencing, directing and leading the process of evolution? The bifurcation point, irreversibility, hierarchical transcendentalism, autonomy without compromise with the harmony of the Whole are all results of play of Grace / Mother Nature. It is Mother nature who sustains the Great Chain of Being.
3. The knowledge pertaining to Consciousness-Mother Nature relationship is the Highest knowledge, a human being can have.
4. Four discernible non-transcendental fronts of Mother Nature are Cause, Time, Space and Pleasure. Order, Dynamicity, Coherence and their Integration are found in Her curriculum. The time has come when the translation of these terms in language of physics has become imperative. The key to the research on Subtle Energies is here.
5. The obstacles for reaching and understanding consciousness through language of science are three constants; entropy barrier (Prigogine), Planck's constant and velocity of light (Einstein). How does the executive front of Consciousness deal with the three formidable constants of science is a research frontier.
6. There is an incessant and a diffuse pouring of 'Grace' on the cerebral cortex. When human consciousness is elevated to this level, one encounters an 'energy barrier'. This is the electrophysiological watershed between upstairs (upper three layers) and downstairs (lower three layers) of cerebral cortex. To break away this watershed means to transcend death. To define this electrophysiological watershed, to explore its nature and to investigate the way how this watershed could be a new 'life line' for evolution of the present human race towards supracortical direction is a research frontier for humanists, neurophysiologists, neurophysicists and biologists.
7. When there is incessant and diffuse 'pouring' of supracosmic Force on the cerebral cortex, there is a need to channelize it. Here comes the necessity of Integration. Unless the person is biologically integrated, the channellization is impossible. Herein arises the need of development of a Biological Integration Centre (BIC). The neural substrate for this biological integration is proposed to be in and around the paracentral lobules of two cerebral hemispheres. The development of this Supreme Biological Homeostat in the brain is a prerequisite for elevation of the brain to the 'State of Grace'.
8. The five vital biological phenomena are Life, Death, Ego, Sex and Love. In an unicellular organism the cell organelles are nothing but materialistic expression of these abstract phenomena. The cell membrane for Love, DNA-replication for Sex, DNA-transcription apparatus along with ribosomes, for Life, mitochondria representing Death and the lysozome, the Ego. In a multicellular organism, these five phenomena in each individual unit get integrated according to a meridian called Consciousness-Antematter meridian. Through this meridian there is a cell to cell interaction at 'Pranic' level. This also opens up new frontiers for research in psychosomatic health and disease.
9. Mother Nature, the Divinity, is the Love. In biology, there is a neural basis of Love. Love is called cortical manifestation of supracortical consciousness. Whatever love and sacrifice we observe in day to day practice is because of successful expedition of

supracortical consciousness through numerous obscurities of the infrastructure of nervous system. Love also has a genetic basis. One cannot love a flower or music unless one has genes for it. Moreover, love turns on the genes. The biophysics and biochemistry of Love are intimately linked with biophysical and biochemical machinery of gene expression. The missing links are to be found out.

10. This Love has tremendous role in manipulation of gene quota which are going to be expressed in the zygote. There is genetic reassortment in the gametes during prolonged love affair and love play. This is one of the reasons why children of a given couple are different. Love and regards for the values and qualities expressed in maternal and paternal pedigree are essential for biologization of values in the zygote. Unification of 'consciousness' of male and female gametes over a period of successive cycles of gametogenesis is another essential factor in production of better children than one thinks one can.
11. The human being has biologized many physical forces like gravity, electricity, etc. When the supracosmic consciousness is biologized at the level of limbic nuclei, there is Ananda. The important limbic nuclei are strategically located in form of a triangle. The septal nuclei and two amygdalae nuclei constitute the Neurological Pleasure Triangle (NPT). NPT is a new discovery. The Essence of this universe is Consciousness. Consciousness biologized at the level of limbic nuclei is Ananda.
12. Biologization of supracosmic consciousness is a gradual, sequential, cascade like process. It starts at the superficial layer of cerebral cortex and gradually involves the whole cortex and then subcortical areas, eventually perforates the NPT. The pattern of involvement of different layers of cerebral cortex during information processing and responsivity of an integrated brain to result in illumination, intuition and revelation, opens up several new frontiers for scientific investigations.

It is worthwhile to explore these research frontiers for a scientist who wishes to contribute to the development of the new paradigm. The present work defines further some of the above frontiers, builds up the umbrella of the new paradigm and stresses on the importance of a new understanding of the brain. The new paradigm would be first revealed through a new mechanics of the brain, e.g., the brain's nature of dependence on consciousness, its limitation and freedom to express 'Free Will', its openness to an inexhaustible source of energy, its modus operandi for nonsensory perception, its integrated dynamics of information processing and its uniqueness of response. In the paradigm of Consciousness-Mother Nature, conquering the brain would be followed by a series of events in the endocrine, defence (immunological) and metabolic organs of the body. When the new paradigm involves the reproductive biology of the human being, the arrival of a new species on this earth beigns.

This new species has been termed here as Akhanda, an individual indivisible from the Whole.

Only individualism is a system closed. Only universalism emphasizes the openness. But the individualism born following conscious unification of 'self' with the Essence of the Multiversity is Akhandification. An Akhanda knows the parts, knows the Whole and is conscious of consciousness. Individualism does not exude true universalism till

(a) one is exposed to and has established connection with an inexhaustible source (Transuniversal Essence),

(b) one's executive routes of neurological pleasure triangle are conducive for expressing Love and,

(c) one is capable of integrating the two: (a) and (b).

In other words, inexhaustible consciousness could not be personified till the neurological pleasure triangle is accessible to it. An essential condition for this, is emergence of a biological integration centre. The key for transformation of the present cortical being into supracortical being lies there.

Standing on this biological integration centre, the effort has been made in this work to blow out the clouds over consciousness, to demystify religion and to frame questions in the answers of which is hidden the bridge-building cement. It is not a very conventional way to define a path.

Everyone, however, has to, and will choose his own path. 'Path is made by walking'. If this work comes against your way, throw it in the dustbin. If it helps you to find the way and eases the journey, I feel relaxed, content and rich.

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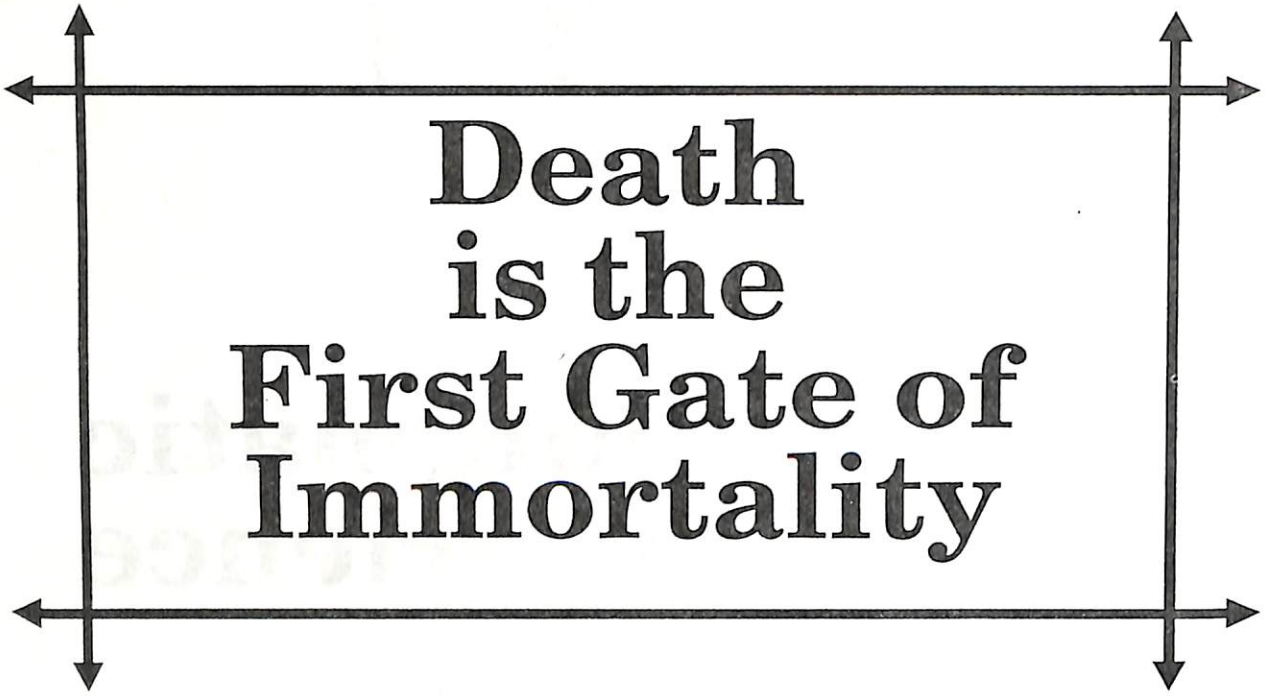
PART - I

Pre-Paradigmatic Death Experience


Death
is the
First Gate of
Immortality

Chapter 1

Experiencing the Death Phenomenon Let the Concept of Death Die

From Facts to Truth

A truth seeker observes and sees facts, experimental or natural. The facts are analysed by the left cerebral hemisphere mathematically, statistically, sequentially, digitally. The right cerebral hemisphere processes these logically, geometrically, analogically to see whether it would be possible to build up any concept. When the left and right hemispheric 'computers' come to an agreement, a *concept* is born. With time, as more and more facts accumulate, exceptions continue to emerge. There are some facts which are outside the statistical and logical rules. The sentient being then asks whether the concept, so built-up, is fragmented and not holistic? The intuitive conviction (an active bihemispheric phenomenon) finds out an explanation for the exceptions. If it is successful to accommodate and account for these exceptions, the concept is concretized as a *hypothesis*. The hypothesis is not brittle. Statistics, logic, the accomodation of exceptions with explanations and intuitive conviction are its four elements. The essence of a hypothesis is called a *theory*. All theories have hidden assumptions on which they are based. The untold assumptions in connected theories determine a *paradigm*. The paradigm is a reflection of the *Truth*. Only the Truth is immortal.

Existing Paradigms of Science are based on a wrong Assumption

The existing paradigms in science are based on a basic assumption of 'separateness' ! The queen in the core of this seperateness is *death*. So, in the existing paradigms, the object and the subject are eternally separate and the paradigm remains perpetually *objective*. What cannot be measured or 'quantified' is not scientific, is the dictum of these paradigms. Each quantum of the Whole in the existing paradigms is separately measurable. Hence, it is *positivistic*. In these paradigms, not only can the parts be studied separately from the Whole, but also the properties of the Whole can be derived from the observations of the parts. So, the paradigms

are *reductivistic*[1]. As these are paradigms synthesized by the brain out of information received primarily through the senses (ignoring almost entirely the supracortical source of information) and the information processing and responsivity have hardly involved the 'Life-line' in the brain, these remain, in effect, as paradigms of 'Life-less' entities, and not of 'Life', leave aside humanity. And so, these are value-independent, value-neutral or value-free.

Three Paradigms of Western Science

At present, there are three paradigms in the West: Vitalism, Mechanism, and Holism. The three have been summarised by Battista[2] as follows:

Three Paradigms of the West (Battista - 1977)

Parameters	Vitalism	Mechanism	Holism
Ontology	Dualistic	Dualistic	Monistic
Epistemology	Subjective	Objective	Interactive
Methodology	Phenomenological	Empirical	Analogical
Causality	Teleological	Deterministic	Probabilistic
Analysis	Metaphysical	Reductivistic	Structural
Dynamic	Nullentropic	Entropic	Negentropic

All of these paradigms work in a nontranscendental plane. None of them can account for the transcendence, transformation and creative emergence in nature. The Newtonian paradigm has ignored both Life-Force and Consciousness. The Theories of Relativity and Quantum Mechanics have futile attempts to explain Life. None of the theories of evolution has even glimpsed at the Life-Force i.e. Mother Nature. The paradigm for Life cannot be initiated without elimination of *death* and invocation of this Life-Force i.e. the executive front of consciousness.

The Paradigms for Life

Prof. Prigogine, a Nobel Laureate in chemistry, has emphasized the exploration of the 'softer part' of nature to understand 'Life'. During his journey, he has observed an *'Evolutionary Paradigm'*, where a new, complex and a higher order comes out of chaos. The Evolutionary Paradigm is pluralistic, complex and temporal[3]. Its epistemology is interactive and causality is a unique combination of 'probabilistic' and 'deterministic' paradigms. Its dynamics are based on the second law of thermodynamics, the entropy barrier and the irreversibility of such a process. The evolutionary paradigm of Prof. Prigogine, however, has been stuck at an unsurpassable barrier, the 'entropy barrier'.

Looking at the cardinal feature of Life as self-organization, Prof. Prigogine and many others (e.g., Prof. R. K. Mishra, from India) are in favour of *'self-organization'* as a new paradigm. Self-organization before and after crushing the entropy barrier would be different and it is the latter which is more close to life. During exploration of mechanics of the self-organization, one does get a hint of Mother Nature. Self-organization remains inescapable in the bottom-up organization of the emerging paradigm. (The top-down organization of the new paradigm is looked after by Consciousness-Mother Nature).

Life did first arrive at molecular level says, the *Life-as-Chemistry* paradigm. This is a monumental mistake and has been picked up astutely by Prof. Dwight H. Bulkley from Seattle Institute of Life Sciences, USA. Through his extensive data-based evidences, he vouches for a *Life-as-Physics* paradigm to correct this historical wrong[4]. While chemistry remains confined to the molecular level, physics begins at the atomic level and extends through the sub-subatomic level to vacuum and then through quantum tunnelling of vacuum to a past-vaccum state. Or it extends through plasma state, superfluid state to superconductor state of matter.

The division of science into Physics and Chemistry is man-made, according to the level of understanding of the phenomenon by the human brain. Though some of the phenomena could be explained entirely by chemistry, it is certain that when one looks at the regulatory mechanism at a deeper level, there is more physics and little chemistry. So, this generic shift of paradigm from 'Life-as-Chemistry' to Life-as-Physics is needed not just to understand and explain the phenomenon of Life, but it is an essential prerequisite to explore the modus operandi of consciousness.

The Life-as-Physics paradigm could explain replication of organells, molecules, and atoms, the energy balance, energy transduction and the speed of life processes. All of those could be perfectly automated at the superconductor level, at the speed of light. The biologization of automation is an important event. Once the 'routine', the 'mundane', the 'simpler' are automated, the scope for transcendence, transformation and new emergence expands. Love is experienced as superluminal event in Life and one of the signs of Life is the autonomy over the automation. It is Love which remains ever-autonomous.

The felt need in science, therefore, is for a paradigm in a conflict-free domain to account for nontranscendental, transcendental, transformational and new formational events complementing and bootstrapping vitalistic, mechanistic, holistic and evolutionary paradigms. Here, comes the role of the Akhanda Paradigm.

The Akhanda Paradigm

It is *Consciousness* which transforms intelligence into wisdom and to start with, for the intellectuals, the paradigm may be stated as follows:-

It is a paradigm wherein applying the empirical, phenomenological and analogical methodology, the reductivistic, metaphysical and structural analysis of any element, compound, or event leads to the same conclusion leaving no chance for any alternative whatsoever. In unequivocal language it also accounts for evolution, involution, creative emergence and transformation.

The 'Akhanda' is a concept which represents the Whole i.e. where the existence of pieces cannot be imagined. Even if the senses declare that it is made up of pieces, the intellect discovers that every piece is unique and as a Whole it is unique. Even after removal of a piece or pieces, the Wholeness can be restored. Any piece also can reconstruct the Whole. Not only that in every piece immanent is the Whole in structure and in dynamicity (holographic representation) but every piece also determines the Whole equally and simultaneously (bootstrapping). The 'sense' of piece stimulates intellect to lead instantaneously

to the consciousness for the Whole. *The Akhanda Paradigm is a paradigm which brings this Whole within a sensible domain.*

The present humanity, in fact, is at threshold of a new formation. The humanity is aware of infinite source of information / energy / field / Grace / (?) through the cerebral cortex[5,6]. The humanity has the feeling that the whole universe is alive and there exist several such universe(s) (the Multiverse). The 'Life-line' in the brain of this humanity could find UNITY of lives at a plane from which several universe(s) are born, from which several millions of Life-forms have emerged, from which the human being could experience 'New life' following nontranscendental, transcendental and transformational death experiences, the plane of that Essence, the Essence of the Multiversity. *The paradigm born out of the Essence of the Multiversity is the Akhanda Paradigm.* The paradigm is simultaneously patriarchal and matriarchal. There is a masculine-feminine integration in it. Mother Nature is the Life Force in this paradigm. It is She who makes consciousness a causal reality.

Uniqueness of the Akhanda Paradigm is that it deals with the process of new formation out of present humanity through supracortical transformation.

New creation is an alloy of reductionism, constructionism, vitalism and holism. The key is in the answer to the question, can scientific approach ever explain the Whole? The question leads to a paradox. The answer could be 'No' and 'Yes'. In this 'No', is hidden the origin of reductionism. Knowing that the Whole is incomprehensible, one reduces the Whole to a sizable 'part', comprehensible by one's brain and analyses its principles and then aspires (involving 'vitalism') to deduce the principles of the Whole. As holistic is one's reduction, so holistic will be one's construction. On the other hand, in the answer 'Yes', is hidden the fountainhead of holism. Once said 'Yes', the effort leads to ultimate, unconditional, active, total surrender to the Whole. Following that, one becomes inseparable from the Whole. Then whatever one does or thinks, has holistic representation. If a reductionist remains conscious of what he has been trying to reduce (certainly, the Whole), then implicit in his explicit reductionist's approach is the holism. It is the consciousness for the Whole which throws the reductionist into vacuum. On the other brim of the void, it is the same consciousness which glimpses as Whole and finally it is the same consciousness which induces one for a new construction. The aspiration for a new construction involves the 'vital' and during conscious passage through the void, it gains ability to contribute 'vitalism' in the new emergence. It is this component of 'vitalism' which makes this new emergence most purposeful. Finally, it must be emphasized that in the whole mechanism, as described, no one can reduce consciousness. *The Akhanda Paradigm is a paradigm of new creativity holding this consciousness as an irreducible constant.*

Paradigms are born out of human brain. Not only the types, sources and routes (sensory and supracortical) of information but also the state of information processing and responsivity of the human brain are responsible for shaping any emerging paradigm. After several millions of years of journey, the human brain, though in a few human beings to start with, has reached a state when consciousness inside and consciousness outside the brain have become identical, when the brain processes information and responds without hemispherical bias, stair asynchrony and cosmocortical disharmony. Herein emerges this Akhanda Paradigm, where biology, physics and philosophy meet, and where the observer, the process of observation and the observed are one.

The Akhanda Paradigm is the paradigm of Consciousness-Mother Nature, the behavioral expression of which is 'Love'. Love is experienced as a superluminal event in Life and through the cascade of involutions, it is manifested as sacrifice (which could be quantumized, on many occasions) for the beloved. It thrives on a primordial value-system, which evolves in vacuum through concurrence of instinct, reasoning and feelings, in presence of the Grace. It emphasizes the future of humanity, the emergence of a new *'Life'*-form which is more organismic, more systemic, more holistic, more topological. This paradigm heralds multiple new creations at different level, - a complete engagement of phenomenon of *Sex* into a subtler integration. This paradigm retains the *Ego* of the individual indivisible from the Whole and through this it enfeoffs all fragmented truths, the strength of other paradigms.

Introduction to this Chapter

In the introduction of this work, it needs to be emphasized that to materialize this paradigm, the human brain has to transcend *'Death'*. Through this conscious experience of death, this paradigm immortalizes its integrating capacity. *Transcending death, this paradigm completely deletes the basic false assumption of separateness.* Touching the immortal, eternal and infinite consciousness, it advocates the unity of hierarchical levels. This conscious experience of death becomes 'preparadigmatic', an 'exceptional human experience'[7], when triggered on (the 'gestalt switch' in the language of Thomas Kuhn) by the living presence of a Sadguru. The 'intuitive leap' (as Einstein prefers to call it) just follows. In the first chapter of this work, we will remain busy in experiencing this 'preparadigmatic' death phenomenon.

The concept, hypothesis or theory on 'Death' has to be built up from this view point so that the physicist, the biologist and the philosopher, all with their respective methodology, arrive at the same conclusion. Similarly, a reductivist, a phenomenologist, an evolutionary, an analogist and a creative personality feel equally content.

The Present Assumption(s) in the Akhanda Paradigm

The present assumption in the Akhanda Paradigm is that the supracortical consciousness is an existing reality. Its characteristic is inexhaustibility (within cortical limits). It is manifested as Love. Whatever love and sacrifice we observe in day to day life is because of successful expedition of supracortical consciousness through numerous obscurities of the infrastructure of the nervous system[5,6]. In this paradigm, the 'life' comes from above, through the cerebral cortex, to the brainstem pacemaker neurons of the apneustic-pneumotaxic centres, the cardiac centre and the vasomotor centre[8]. The cerebral cortex is not only a perceiver of the infracortical sensation or an information processor and decision maker, but also the receptor of 'supracosmic current' and in this sense, we are talking about an inverted neuraxis[9].

What is Death ?

What is Death? Answers are so varied that they boil down to nothing. More than a decade ago, in 1983, my poetic expression also led me to this nothingness.

The only thing I am sure about in my life, is death.
Death is the most certain event in life.

More true than pain, love and pleasure,
From parents, husband or wife.
Every moment carries us towards it,
From base to tip.
It steals every second, we live,
In the dead past, where all morbid.
It lurks in our future with deepening gloom
Petals fall apart after the bloom.
Yet, we have incessant fight with it,
With our nail and teeth.
Doctors struggle with it, so does Science,
The yogi meditates past it, to go beyond conscience.
This keeps all busy throughout life
From the day of birth, in everyday's stride.
When we camouflage our greed, ego and lust
With our achievements in science, in politics, by telecast.
It is death, which has the last laugh at us
Its' look does not have any bias.
May we be good, bad or pious.
It calls all, in its sweet embrace,
Charming beauty with graceful face,
It gives all its priceless gift.
Still none can say, what death is !

Death has been there, since the origin of Life

Actually five phenomena have joined hands to start the biology. They are Life, Death, Ego, Sex and Love. Self-sustenance of an unicellular organism or of a monad is result of a successful dialetics of life and death. Death has been conquered by passage of genes from generation to generation - a successful exlectics (the word was coined by Edward de Bono[10]) of death, ego, sex, mixed with love in life. Love becomes overt in biology when the unicellular organism becomes multicellular and the question of mutual sharing and adjustment is answered. In a cellular society, sharing, sacrifice, nearness and proximity, all are manifestations of love through complex intricacies of the other four. In a multisystem being, it is love which flows as life through sex, from generation to generation.

The view that life and death cannot be visualised in isolation is strengthened by the pioneering work of New Age psychiatrist, Stanislav Grof, who has drawn attention to the fact that perinatal experience is rich in experience of death[11]. The entire process of coming out of the womb - the claustrophobic situation created by crushing pressure of the birth canal, an urge for separate existence, then the success, the first breath, sectioning of umbilical cord (a permanent natural scar in the body), the flutter in the heart, the closure of vessels relevant to the fetal circulation, the dissolution of all previous reference points of womb-existence, and the feeling of a fresh birth - are a story of death and life. This life, as seen by the discipline of medicine, ceases to exist when the central nervous system is irreversibly out of action. According

to the same logic, the life begins after fertilization, with the appearance of neural tissue in the embryo (12-30 days) or according to some, along with the appearance of functioning nervous system (beginning of second trimester). Philosophical and ethical problems of life and death, therefore, should be solved together and not in isolation[12]

Life on this earth has experienced the entire evolution and so has death too. One cannot solve the problem of death unless one comes out with some solutions for explaining life. If the life on this planet earth is at the threshold of a new formation through supracortical transformation, then death has an active role in the process.

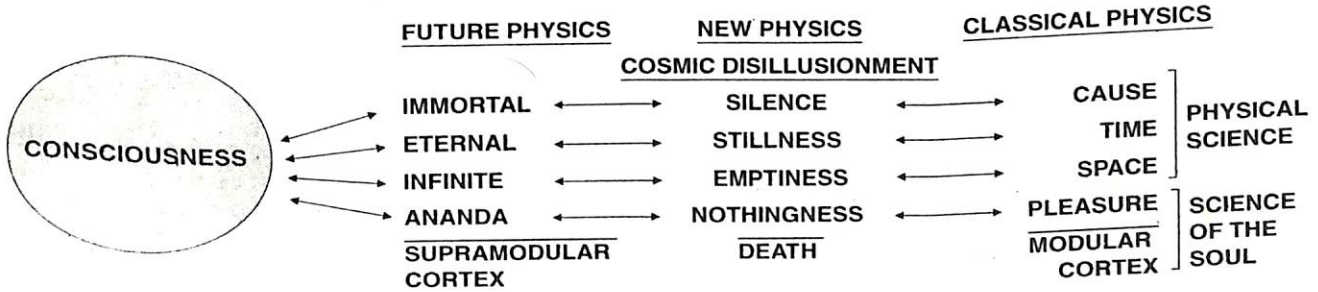
Dying in the Late Twentieth Century

In modern day, there is talk not only on corporal death but also on psychological death, professional death, intellectual and axiological death. And, at the end of twentieth century, debate has still been continuing on brain-death. Brain-death has drawn attention of many disciplines because the aggresive technology and invasive medicine of today have deprived the patient of his most dignified and certain decision of life i.e. his death. It is nice that death has been largely postponed till the age of sixty or seventy. It is an irony that the decision on death has been handed over to the physician and relatives, under the mercy of heartless machines in intensive care units. From 'peaceful' death at home, surrounded by beloved 'relations', it has been switched over to a 'scientific' death in the hospital. In this 'hospitalized' death, the act of dying has become isolated and sometimes unduly prolonged for days, months or even years[13]. Those who have been successful to have a welcome back, have expressed a wealth of experience published as 'near-death' or death experience (e.g.[14]). All these experiences demand a clarification of their relationship with death and consciousness.

Death and Consciousness

Death cannot be discussed without considering its relation with consciousness.

Consciousness cannot be defined. However, it can be qualified. It is immortal, eternal, infinite and biologically perceived as Ananda. These are the transcendental qualities of consciousness. Nontranscendental equivalents of these are cause, time, space and pleasure respectively. Cause and immortality are bridged by silence, time and eternity by stillness, space and infinity by emptiness, pleasure and Ananda by nothingness. Death exists for only those who cannot bridge the gulf between nontranscendentals and transcendentals. To a conscious in-



Consciousness Qualified in Twelve Words

FIG. 1.1

dividual there is neither illusion nor death. There is silence, stillness, emptiness and nothingness.

The crux of the problem in the brain lies in the clarification of the relation between modular and the supramodular cortex (vide infra).

Biological Integration, Death and Transformation

To a biologically integrated person, death is a dignified phase transition from one existence to another. It is not out of proportion to other four elements of nature (love, sex, ego and life). The other elements yield to it when the whole demands it. Death takes the lead when the betterment of the whole requires it. Death is one of the five ropes through which one can travel to the common knot of the biological integration centre[15].

Death has a special role in the process of transformation. Both transformation and death are phenomena of nature. During transformation, following death of one's previous nature, the being comes back in the same human infrastructure but with multiple new qualities, more complex, more organized, more close to Mother Nature. During the process of transformation, the death tunnel is an active two way passage. The previous nature is passed and Mother Nature enters the infrastructure to play the role in a new life. It is this flow of Grace, the element of infinite Love,* which reduces death to infinite dilution.

Working Definition of Death

Every living organism has its phase-specific consciousness. It is in 'link', in continuum with supracosmic consciousness. Merger of the 'phase-specific consciousness' with, or delinkage of the 'phase-specific consciousness' from the 'supracosmic consciousness' resulting in loss of observable existence of the former, is death.

In the cortical animal, the 'link' between 'phase-specific-consciousness' of biology and the supracosmic consciousness is established and maintained through the cerebral cortex.

In search of a Centre for Death, in the Brain

The Brainstem :

For all practical purpose, the highest centre for life / death in an average human being has been considered to be in the brainstem. The apneustic-pneumotaxic centre, the cardiac centre and the vasomotor centre are the vital centres which consist of 'pacemaker' neurons arranged in form of a ring and send rhythmic impulses to vital organs like the heart and the lungs. In reality, all of these centres are ultimately dependent on cortical connections.

The Corticobrainstem Neuronal Circuit :

During the process of evolution of the brain, a subtle neuronal current has grown from the brainstem along the wall of the ventricular system, hypothalamus and limbic nuclei to the

*In ordinary life, there is no receptacle for infinite love. But there remains a special room for beloved's love, "British General James L'Amy was absent from Jamaica for a few days and in his absence his fiancee was pronounced dead from the dreaded yellow fever. She was buried in the family mausoleum. On his return, the distraught General insisted that he see his beloved's face for the last time. As he did so, he saw a flicker of life. After a few sips of brandy she received and survived as his wife for another 41 years" - Subir T. Singh in The Times Offspring, Ed. Rama Singh, 30th October, page 8,1987.

cerebral cortex. The brainstem vital centres, in fact, are under constant surveillance of the highest cortical centre. An average human being may not be aware of it. This cortico-brainstem neuronal circuit is the neural substrate for what the philosophers have called *Soul* and the vedantists have named *Jivatman*[16].

The Cortical Centres :

The supracosmic consciousness is in 'link' with cortical consciousness. There is diffuse 'pouring' from above on the cerebral cortex. It is of a wavepackage of energy, very intimate to Mother Nature. This 'pouring' affects the electrical dipoles in the dendritic mat of the upstairs of the cortex. The downstair neurons of the cerebral cortex are not generally aware of it.

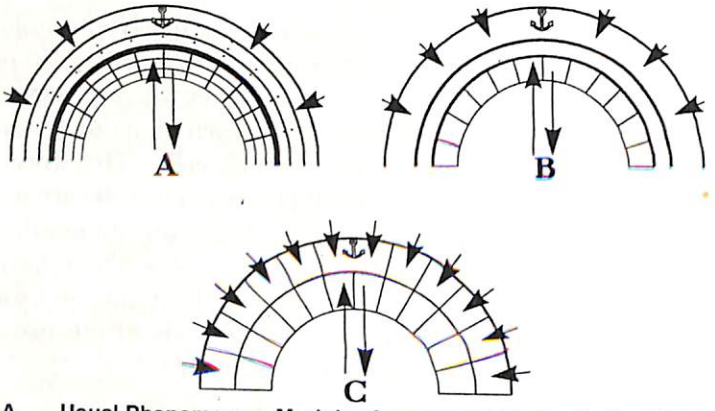
There exists a paradox in correlation of the structural organization and the functional activities of the cerebral cortex. There is morphological layering and functional stratification of the cerebral cortex on the one hand and the modular operon and the modus operandi on the other. The paradox, however, leads to the truth if one can identify its root.

The root of the paradox in the cerebral cortex is the existence of an 'electrophysiological watershed' between upper three layers (upstairs) and lower three layers (downstairs) of the cerebral cortex. The primary sensory neuron sits in the fourth cortical layer; the primary motor neuron starts from the fifth layer of the cerebral cortex. There is a U-turn of action potential, underneath the third cortical layer. In downstairs, there are output cells. The fibres are vertically arranged. In upstairs, the cells and fibres are horizontally placed. The cells are mainly local circuit neurons (LCNs). This area abounds in dendrites. The dendrites do not develop action potential. The cell-dendritic relationship is of constantly shifting dipoles. The removal of upper layers does not alter the EEG pattern (except for synchronization of the delta wave during sleep). The cortical ERs (evoked responses) are primarily an activity recorded from upstairs. The relevant features of upstairs and downstairs phenomena in the cerebral cortex are summarised in the following table.

Summary of the concept of Upstairs and Downstairs of Cerebral Cortex

	Upstairs of cortex	**Downstairs of cortex**
Histoarchitecture	Modular arrangement 'fades' away. Rich in dendritic fibres, horizontally disposed. Less number of 'output' cells.	Prominent modular arrangement. Vertically oriented long projection fibres. More number of 'output' cells.
Electrophysiology	Dendritic dipoles. Evoked Responses(ER)	Action potentials. Electroencephalogram(EEG). Electrocorticogram(ECG)
Functions	Nonsensory perception of the reality. Imagination and antcipation. Interpenetration of	Sensory world. Knowing, feeling and planning. Spatiotemporal vibration of the

	space, time and cause. 'Cosmic'.	cortical modules is responsible for infinite variety of consciousness. 'Earthly'
Consciousness	Supramodular self-consciousness. Even the brain belongs to the 'Self'. After transcending 'death' one becomes aware of its existence. Small 'i'. Love, Devotion, Faith.	Modular self-consciousness. Modular self-consciousness becomes 'ineffective' when one does transcendental meditation. Egoistic 'I'. Perseverance.
Philosophy	Kant's 'starry sky'. Ethereal body.	Kant's 'moral laws inside'. Causal body.



A Usual Phenomenon. Modular Arrangement fades in the Upstairs. Minimal Supracortical Manifestation.

B Cortical Upset. Upstairs and Downstairs operate independently. Conscious confrontation with Death.

C Synchronization of Upstairs and Downstairs. Supracortical Machinery.

Upstairs Downstairs Confrontation, Death

FIG. 1.2

The independence, dependence and interpenetration of the upstairs and downstairs activities of the cortex are responsible for so much confusion, clarity and fun about death and life. Independent functioning of upstairs and downstairs results in pandemonium of the whole psyche and a conscious confrontation of life and death. The synchronization of downstair modular activities with that of upstair is responsible for supracortical manifestation (Fig. 1.2).

Electrophysiological 'Barrier' between Upstairs and Downstairs

The brain is the sounding board of the supracortical vibrations that it receives from above. When the brain processes information and responds in such a way that the hemispherical bias is nil, the stair-asynchrony is absent and there is cosmocortical harmony, the brain is then said to be in the State of Grace.

Interhemispheric transfer of information is carried by the huge commissural system (corpus callosum, anterior posterior and habenular commissures, interthalamic connexus, brainstem crossings etc.). The hemispherical bias is brought down to minimum by the commis-

sural system as well as by the mechanism which significantly reduces the stair asynchrony. The root cause of stair-asynchrony is in the fact that upstair neurons are open to cosmos and the downstair ones are responsible for routine chores. So, the crux of the matter is in the 'electrophysiological watershed' between upstairs and downstairs of cerebral cortex.

That there exists a 'barrier' in between upstairs and downstairs of the cortex is a statement from a mechanistic point of view. Electrophysiologists will prefer to visualize it in the highest (outermost) synaptic plane of the cerebral cortex through which transformational messages are brought down as action potentials in axons of downstair neurons. In some areas, a cascade of synapses may be responsible for this step-down phenomenon. Then the 'barrier' will include simultaneous activity of all synapses in the mentioned plane of both cerebral hemispheres, possibly with some regional preferences.

From the philosophic point of view, could this barrier be *Mind*? 'Monoloy' / 'Mononash', destruction of mind, has been taken as equivalent to death, by many. Or, is it the high-energy barrier guarded by guilt and shame breaking through which one reaches the domain of consciousness?[17]. Is it the mightiest 'entropy barrier'[3] for higher neurophysiological processes? Is it that line, where every hope and search must cease in the phase of ascent during supracortical transformation?[18] Is it the 'veil' which is torn with 'slightest touch' during 'supramental opening'?[19] Is 'facilitated diffusion' through this barrier responsible for supracortical manifesation?

If one can bring out a tentative model of this 'barrier', intellectuals can bid a good bye to death. The model cannot be constructed without taking notes of the experiences of 'i' during death. And so, let us now review the neuropsychology of death.

Neuropsychology of Death

In the Neuropsychology of Death, one of my earlier articles in *The Dynamic Web of Supracortical Consciousness*, I have said that there is no rebirth for the individual 'i', there is only a cycling of 'consciousness'[20].

The seven phases of this conscious process of death and the process of 'rebirth' in the same body have been described below.

1. The first step in this process is the dissociation of self-consciousness from the prefrontal lobe, the planning cortex. This generates apprehension and fear. When 'i' am conscious about total dissolution of my plan, 'i' am afraid (cf. neuropsychology of fear). If 'i' succeed to overcome the fear (It is possible only if 'i' am optimistic, and have faith in something beyond), 'i' pass to the next phase.
2. When 'i' am not afraid of anything in 'my' world, 'i' carry on. 'My' first encounter, 'i' find, is very difficult to express. Use of words conceal rather than reveal the realities. Still 'i' march on and try to express.
3. The root of 'my' auditory cortex is stirred. A disturbing noise is heard. If 'i' am successful in 'my' attempt to 'concentrate', 'i' can hear the clean voice of 'my' well-wishers, 'He is no more with us'!
4. 'i' also take off from the visual cortex. A total blackout follows.

A long dark tunnel. It compels 'me' to become unidirectional (irreversible).

5. The cortex responsible for my spatial equilibrium almost loses balance. 'i' run, run and run. 'i' exhaust 'myself' to cross the long dark tunnel with the fastest velocity ever possible. 'i' run faster than light. The light follows me.
6. The 'hidden variables' which Einstein thought as the cause of indeterminacy and Eugene Wigner thought to be inside human consciousness, are straightened out during the passage through this tunnel. 'i' reach the other end of the tunnel, beyond the countercurrents of action potentials in the modular cortex. 'i' am 'out' of my causal body, beyond space, time. 'i' am in the 'vacuum'. Modular self-consciousness is dead. The cunning dragons of the 'subconscious' ocean and the hidden dynamites of self-conscious modules are 'ineffective' to do anything to 'me'. There is silence, stillness, emptiness and nothingness.
7. Three options are open for 'me' (the 'astral traveller').
   a. 'i' remain 'out' of 'my' body. The clinicians declare 'me' dead and 'my' relatives burn, bury or throw 'my' body. 'i' lose the chance of re-entering 'my' body for ever. 'i' am honoured as the departed 'soul' in the heaven.
   b. 'i' re-enter my causal body (downstairs of the cortex). (A conscious person describes it as entry through the top of the skull - a referred sensation!).

      The reason may be one or more. 'i' have not finished my job yet. 'i' don't want to die right now. 'My' beloved does not wish 'me' to depart this moment etc. etc.
   c. If 'i' am fortunate to have innumerable spines on the dendrites in the upstairs of the cortex, nourished by and flourishing in faith, devotion and love, 'i' don't feel like coming back in 'my' causal body. 'i' carry on. Consciously and critically 'i' reject everything else till 'i' see the light of the being, my God, my Guru, the Christ, the Deity.

By now, 'i' have transcended death positively.

8. Interplay of 'I' and 'i'. (Capital 'I' denotes universal 'I' and the small 'i', the cortical 'i'). The Rebirth.

There is a vast quiescence. Electrocerebral 'silence'! The 'verbal' communication between 'I' and 'i' are conspicuous by its absence. There is an instantaneous total review of small 'i' by the big 'I'. A dynamic web of Love. The transformation now reaches it peak.

The biological **State of Grace** has been enfolding and unfolding within the rapturous embrace of the physical **Grace**.

The Supreme Consummation.....'I' impregnates 'i', — the supracortical consciousness becomes immanent in self-consciousness, — the seed for new formation is thereby implanted.

Analysis of the Experiences of Death

'Near death' experience is nontranscendental. The experience of death, however, is a transcendental one. Rebirth in the same body without Supreme Consummation is close to a transformational experience. The Supreme Consummation initiates the New formation.

Unless the milestones of all these four phases have been known, the picture will not be totally clear.

A. 'Near Death' / Nontranscendental Death Experience :

Three salient features in this phase are:

1. Apprehension, fear and uncertainty, to start with.
2. Passage through a long dark tunnel, and
3. In later phases, there is an attempt to carry out a total review of the whole phenomenon.

These could be well correlated with three important conceptual milestones in new physics.

Three important psychological perceptions during conscious death.	**Three important conceptual milestones in quantum physics.**
1. Apprehension, fear, uncertainty.	1. Uncertainty principle.
2. Perception of passing through a long dark tunnel.	2. Quantum mechanical tunneling.
3. An attempt to review the whole phenomenon.	3. Holographic theory.

These theories of 'new physics' are nontranscendental. 'Even the implicate realm and the holographic domain are not transcendental and only explicitly exclude the probability domain' (Ken Wilber) [21]. The holographic domain is the frequency domain where events are represented by frequency i.e. space per unit time.

B. Transcendental Experience of Death :

This is experienced when 'self' perforates through the frequency domain. There are three important phases. To describe these, I prefer to quote Sri Aurobindo, from *Savitri*[22].

"Then to the ascent there came a mighty term:
A height was reached where nothing made could live,
A line where every hope and search must cease
Neared some intolerant bare Reality"

1. By an unknown mechanism, 'i' perforates the frequency domain.

"There is an abysmal lapse"

"The Demiurges lost their names and forms"

"Existence lost its aim in the Inane"

"Even the spirit that holds the universe
Fainted in luminous insufficiency"

2. The void:

'i' passes, "Across a neutral all-supporting Void
Whose blankness nursed his lone immortal spirit,
Allured towards some recondite Supreme".

Voyaging in that 'stark companionless Reality', 'i' reaches the next phase.

3. The brim:

Here, "Only a formless Form of self was left,
A tenuous ghost of something that had been,
The last experience of a lapsing wave
Before it sinks into a bournless sea,—"

Looking forward, the self is surprised to see the holoflux of the universe, "where zero is made pregnant with boundless change" - the holoflux of supracosmic consciousness, the cosmic mind, the transtemporal consciousness.

C. Towards Transformation :

"A huge extinction is not God's last word"

"Escape brings not the victory and the crown !
Something thou cam'st to do from the Unknown,
But nothing is finished and the world goes on,
Because only half God's cosmic work is done".

So, the voyage continues.

But so far, the ignorance attached to self-consciousness is slain, not the self-consciousness. And it happens when the journey is 'tunnelized' again.

"There was no mind there with its need to know,
There was no heart there with its need to love.
All person perished in its namelessness"

Then slaying of self-consciousness.

"All he had been and all towards which he grew
Must now be left behind or else transform
Into a self of That which has no name"

"A vast surrender was his only strength."

"Infinity swallowed him into shoreless trance."

Reaching the sempiternal base

"Voyaging in blank featureless Nothingness,
Sole in the trackless Incommensurable,
Or past not-self, and self and selflessness,
Transgressing the dream shores of conscious mind
He reached at last his sempiternal base."

Here, "to fulfil himself was God's desire".

D. Then follows the Supreme Consummation :

In the abyss of deep blue, the sempiternal light is lit. The destined human cerebral cortex faces Infinity's finite front. Hidden asymmetries in the external cosmos are complemented by reciprocal asymmetries in neurobiology. In the cyclic symmetry and in the metric plane, the quivering limbs of the cosmic facet embrace the virgin vibration of the dreamy cords of the living biological corpse. The undying love of the cosmic integration centre[6] impregnates the passionate heart beat of biological integration centre[15]. "A vast quiescence swallows up all sounds into a voicelessness of utter bliss."[22].

E. New Formation :

The Supreme Consummation bridges 'transformation' and 'new formation'. The seed which germinates following Supreme Consummation brings an order which is 'new' to the empiricist and holist alike and particularly to the positivist, objectivist and reductionist.

Summary of the Important Experiences and their Correlation with Space Time Physics.

Transcendental Death Experiences.	**Space Time Physics.**
1. Tearing of holographic domain.	1. Tearing of frequency (space/time) domain.
2. Void.	2. Void.
3. Other brim of the Void. Holoflux of the cosmos.	3. Transtemporal Consciousness.
Transformational Experiences	**Consciousness.**
4. Slaying of self-consciousness.	4. Flutter.
5. Surrender	5. Pretemporal consciousness
6. 'Divinity'	6. Crystal consciousness.
Towards New Formation	**Consciousness**
7. Supreme Consummation	7. Ecstasy
8. New formation. 'Spiritual being' for human experiences.	8. New space, New time.

Neurophysiological Substrate for the Transcendental Core

The key to all experiences mentioned above is an interaction at the junction of the upstair neurons (which are open to the external cosmos) and the downstair neurons which are connected with the neurological pleasure triangle (NPT) constituted by two amygdalae and septal nuclei. With the experiences stratified as stated above, we are now in a position to construct the model of the transcendental core. *The mystery of death can be solved if our attempt to explore this transcendental core becomes successful.*

First, we have to simplify the whole subject and then to take account of the complexities of the core.

Simplistic view of the transfer of crucial information (Fig. 1.3) :

To start with, let us consider a monosynaptic model. Two neurons, one from the upstair cortex (U) and the other from the downstair cortex (D) are in communication. The communication is unique in the sense that one party presents the information in a holographic way and the other accepts it, also in the same holographic way. In this sense, it is a communication between two holograms. In between these two holograms, there is a Void ($I_C - i_C$). As the frequency domain of these of two are never symmetrical so during communication across the Void there is symmetry breaking and symmetry making. The holograms are generated from an uncertainty domain around the perineural space, near the synapse.

Before the communicating neurons present their information face to face in a holographic way, the information has been tunnellized (quantum mechanical tunnel) from an uncertainty domain. Tunnelling of information has been elaborated in the works of Prof. David Bohm[23] and Prof. D.K. Roy.[24] In the tunnel there is gradual shedding of the hidden variables. The probability decreases. The certainty increases and one reaches the implicate realm or frequency zone[23]. Thus, on either side of the Void there are three zones - holographic (I_C and i_C), quantum mechanical tunnel (I_B and i_B) and the uncertainty domain (I_A and i_A).

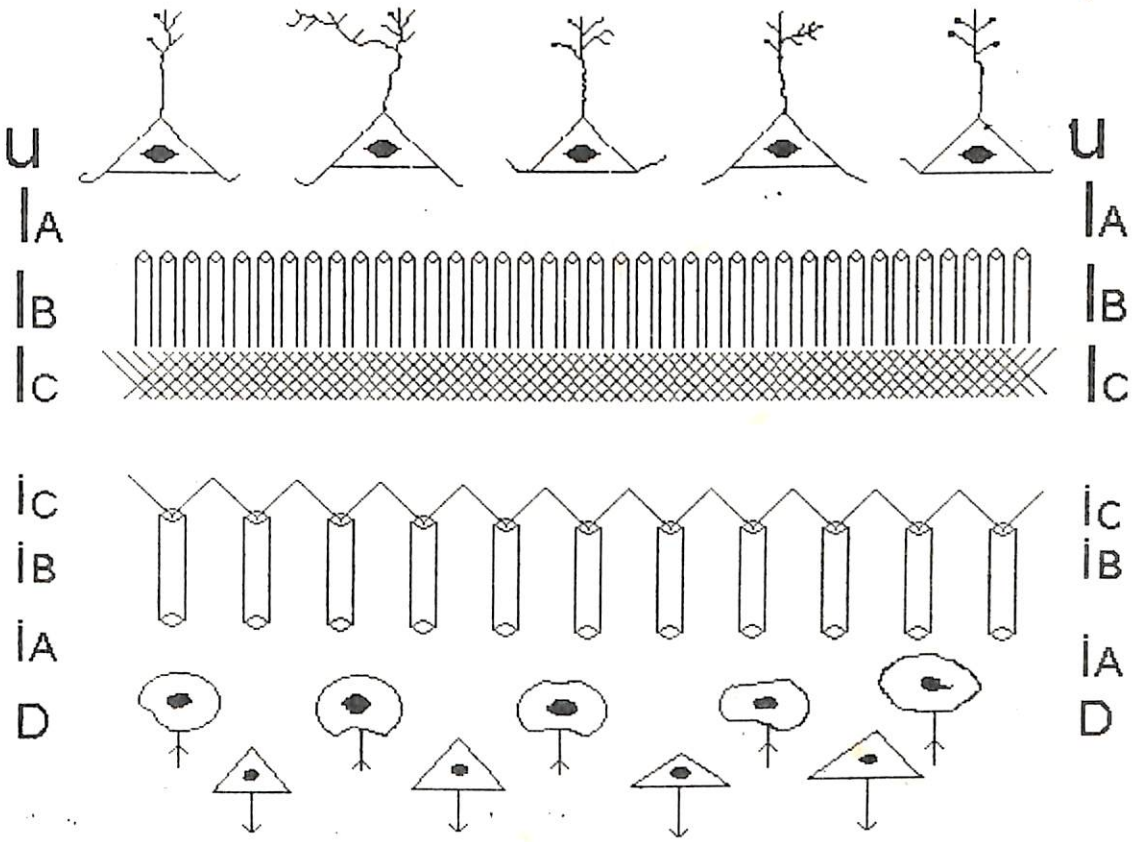
Let us now say that the upstair neuron has received information from the external cosmos through its dendrites. The cell-dendritic relation is of constantly shifting electrical dipoles. The information reaches the perikaryon of the cell. In the perineural space, the information is conveyed in a language of high energy physics, probably in the dynamics of pattern of movement of massless wavepackages of energy. There is 'uncertainty' to start with, followed by quantum mechanical tunnelling which eventually leads to a frequency zone, and then holoflux of the external cosmos, the executive facet of supracosmic consciousness, the 'cosmic mind'.

The downstair neuron which has pruned its electrical activities generated by the impulses from below, and prepared itself for receiving the information from upstairs, communicates with the 'cosmic mind', the outer holoflux. Across the Void the information reaches the holographic domain of second neuron, the catchment area of the 'earthly mind', and through the quantum mechanical tunnel, where it acquires 'hidden variables', enters the probabilistic domain of the perineural space of downstair neurons. Then, there is signal transduction through the cell membrane, molecular signalling and generation of action potential in the axons. The cosmic and supracosmic messages, in this way, are translated as action potentials in the neurons.

Complexities of the Phenomenon :

This model we talked about is as simple as that of a monosynaptic reflex. As we go down in neuronal hierarchy, this mode of communication becomes simpler and simpler. The complexities are compounded as we go higher in the hierarchy - first, because of the hierarchy itself and second, because the number of neurons communicating through synaptic space is much more, may be a few hundreds in certain places. The most complex situation arises when we apply it for the communication between infinity and the finite. The source or origin of these complexities are as follows.

U	=	Upstairs of Cortex	D	=	Downstairs of Cortex
I_C	=	Outer Holoflux	i_C	=	Inner Holographic Domain
I_B	=	Outer Tunnel	i_B	=	Quantum Mechanical Tunnel
I_A	=	Spaceless Vast, Timeless Eternity	i_A	=	3 - Dimensional Structural Space



Solid State Model of Electrophysiological Gateway Between Upstairs and Downstairs of Cerebral Cortex

FIG. 1.3

1. Just one Synapse or more?

Is it just one synapse which reduces infinity to finite? Or does this step-down phenomenon occur through a cascade of synapses? It may be that in some areas this reduction is done at the highest (outermost) synaptic plane and in other areas a series of synapses are vital for this step-down transformation.

Still, the moot point remains as to whether infinity communicates with the upstairs neuron across the Great Void through its own frequency zone or does the frequency zone of the finite holograph originate by an unknown mechanism out of the Great Void. Could infinity be ever represented by a frequency domain?

2. Diffuse Pouring, or Are there some special Catchment areas?

Is this 'pouring' from above a diffuse phenomenon? In a new born baby it appears to be diffuse and uniform. With the growth of the baby, specialization of the cerebral cortex takes place. It interacts with the information from enteroceptors, exteroceptors, teleceptors and proprioceptors and only a few areas are left for this higher dimension. The area within and around paracentral lobules of the cortex is a special catchment area for this Grace-phenomenon (Chapter 36). The refinement of this area takes place with ongoing biologization of values. The area then develops as a supreme biological homeostat to resolve the complex interactions that constantly occur amongst reasoning, feelings, instincts, values and Grace.

3. Role of Self-consciousness :

Development of self-consciousness brings even more complexity in such communications. Before surrender, it is an obstacle. (cf.: "Pride and grace dwell never in one place" -Thomas Fuller). Following surrender, it facilitates the move.

The self-consciousness evolves from the phylogenetically oldest sixth cortical layer to the phylogenetically latest first cortical layer. The natural history or the ontogeny of this core should be looked from this point of view.

4. The Phenomenon is Bihemispheric :

The whole phenomenon is bihemispheric. Are the commissural systems also involved before the final output? The questions when, where and how commissural systems are involved remain to be attended.

5. Topographical Dynamicity of the Core :

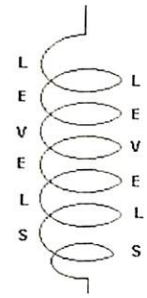
To say that the core is located at the junction of upstairs and downstairs is a very crude statement. The location is dynamic and cannot obviously be the same in a newborn and in a septuagenarian leader, or in a person who does ten hours meditation daily and in a 'couch potato'. The topography cannot be also identical in individuals with different evolutionary status of self-consciousness. It also changes after successive episodes of supracortical opening.

6. Does really Death Die?

Die die die till the death dies. The same word 'death' has been used to eradicate death. If death dies, then what remains? And if the process continues, is not death then immortalized at one end and infinitely reduced at the other end?

7. Are there levels or is it a continuum?

In fact, the process is a spiral with a progressive and a regressive terminal. The regressive end leads to a state of crystal consciousness and the progressive one leads to mortal existence. Actually the 'turns' of the spiral look like 'levels' from the side (Fig. 1.4). The sequence of planes in this model has to be interpreted as turns of a spiral.



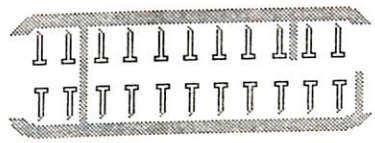
Spiral
FIG. 1.4

8. Biological Integration Centre :

Does the whole theme become simpler or more complex when we consider the presence of biological integration centre[15] in the brain?

Two Wonders

What we have described is nothing but the physics of the Mind and its neurophysiological substrate. 'Mind' is that which 'separates God from us' (Swami Shivananda). 'Mind has cut the oneness' (Sri Aurobindo). From physiological point of view, two questions strike in mind. What separates a cell from its environment? What are the landmarks in the passage for a conscious male gamete to fertilize its female counterpart?



Gross Structure of Cell Membrane
FIG. 1.5

1. When I drew the sketch of the figure 1.3 for the first time, the pathologist in me responded that I had drawn a refined structure of cell membrane (Fig.1.5). Does the lipid bilayer of a cell membrane represent two sets of structured tunnels with a void in between? The cell membrane, in a unicellular organism, apparently separates the 'phase specific consciousness' of the cell and the 'cosmic' and 'supracosmic' consciousness around it. Another 'self' in me dismissed this analogy as childish and superficial ! 'Keep quiet', said the wisdom. There is a long way to go .
2. The second wonder struck me when I had a look at the structure of female reproductive tract (Fig. 1.6), the birth canal. Millions of spermatozoa, ejaculated into vagina, have to travel through almost similar pathway (Fig. 1.6) to fertilize the ovum. In the process, most of them 'mature', but only one out of a few millions succeeds. The rest succumbs to death. Let us revise the landmarks in this pathway (compare, Fig. 1.6 with 1.3).
   a. The vaginal fornix (apparent void) :- i_A
   b. The cervical canal (inner tunnel) :- i_B
   c. The uterine cavity (The great Void) :- i_C-I_C
   d. The Interstitial part of Fallopian tube :- I_C
   e. The Isthmus of Fallopian tube :- (The outer tunnel)- I_B
   f. The Ampulla :- (The Vast)- I_A

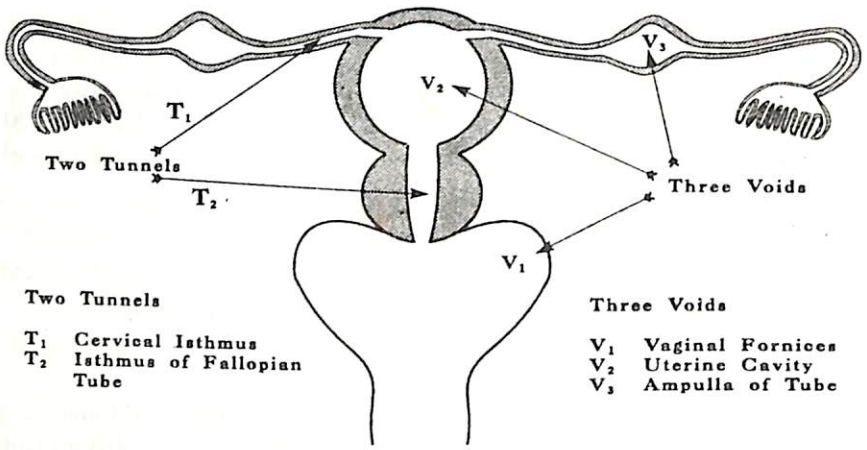


FIG. 1.6

The ovum comes from outside, through peritoneal space and fimbriated end of the fallopian tube (cf. The Grace comes from outside the cortex / universe).

During unravelling of the mystery of death a beneficial spin-off is the understanding of the strategy of construction of the birth canal.

'Death Membrane' is also 'Life Membrane'

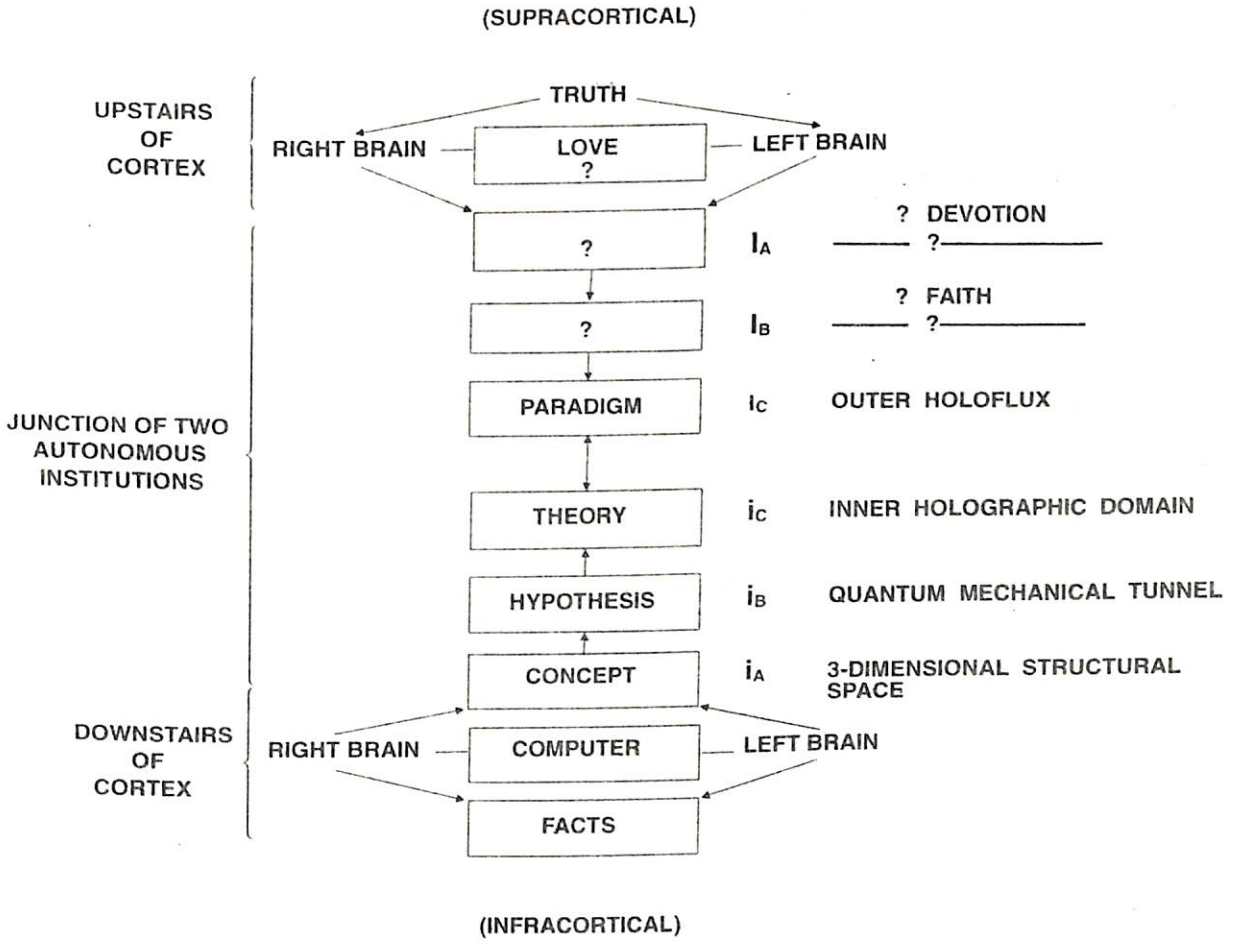
We have sought and reached the 'Holy Grail' of Biology. The physical death of Jesus (unique in the sense that it was fully conscious, extremely painful, unusually prolonged and inseperable from a genuine prayer to the lord for forgiving the 'assaulters') has transformed a great fraction of the humanity and the process is still continuing. The physical death of One has transformed the very 'physical' of many. This has been possible because, in one single brain, the 'death membrane' is also the 'life membrane'.

1. This transcendental core, the gateway, is normally 'open' from above and so all of us are alive and enjoy or suffer in life. It is open irrespective of sleep or wakefulness.
2. When this gateway is permanently closed, there is physical death.
3. The opening and closing of this gate could account for success and failure of a prayer. The prayer with passion which has survived the threatened death is more often granted than the ordinary prayers.
4. Anticipation, imagination are brought into reality by 'facilitated diffusion' through this gate. When the cells in the sole of the foot on the earth know that their cortical representatives have supracosmic connection, then in every moment, supracosmic things are made earthly.
5. The global synchronization of the frequencies (space/unit time) of the two holographic domains is the key for supracortical manifestation and transformation of the cortical beings into supracortical personalities. While patchy

synchronization is responsible for supracortical phenomena (planchette, telepathy, thought-reading), total synchronization is essential for supracortical transformation.

Revision of The Way from Facts to Truth

Now we can look at Fig. 1.7. The sense organs present facts to the left and right hemispherical computers of the brain. A structural concept is built up in 3-dimensional space (iA). Then, uncertainty is accounted for and the exceptions are taken care of. The concept is



From Facts to Truth (Through Cerebral Cortex)
FIG. 1.7

tunnellised (iB) into a hypothesis. The essence of the quantum mechanical tunnel is in the holographic domain (iC) where a theory is born. When the 'self' can communicate from the outer holographic zone (IC), it comes out with a paradigm. The Truth is supracortical.

The question remains as to how to bridge the gap between the paradigm and the Truth? In other words, how is supracosmic consciousness brought down to the frequency zone of the outer holographic domain? What brings down the Absolute to a 'no space, no time' zone and then from a 'no space, no time' to a space/time domain? What can replace the question marks in three boxes in figure 1.7? Can they be replaced by Love, Devotion and Faith?

Faith is the mother of a paradigm, and devotion, the father. Devotion is the structural form of Love. What the left brain and right brain do with the Truth in the upstairs of the cortex is nothing but *Love*.

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Chapter 2

Supracortical Phenomena, Dreams, Samadhi and Supracortical Creations Could this Model provide an Explanation for?

We have just reviewed the modular and supramodular cortex and in between the two, we have designed the existence of transcendental core. Are we now in a position to throw some light on the mechanisms of dreams, supracortical phenomena, samadhi, and supracortical creation?

Basic Neuroanatomy

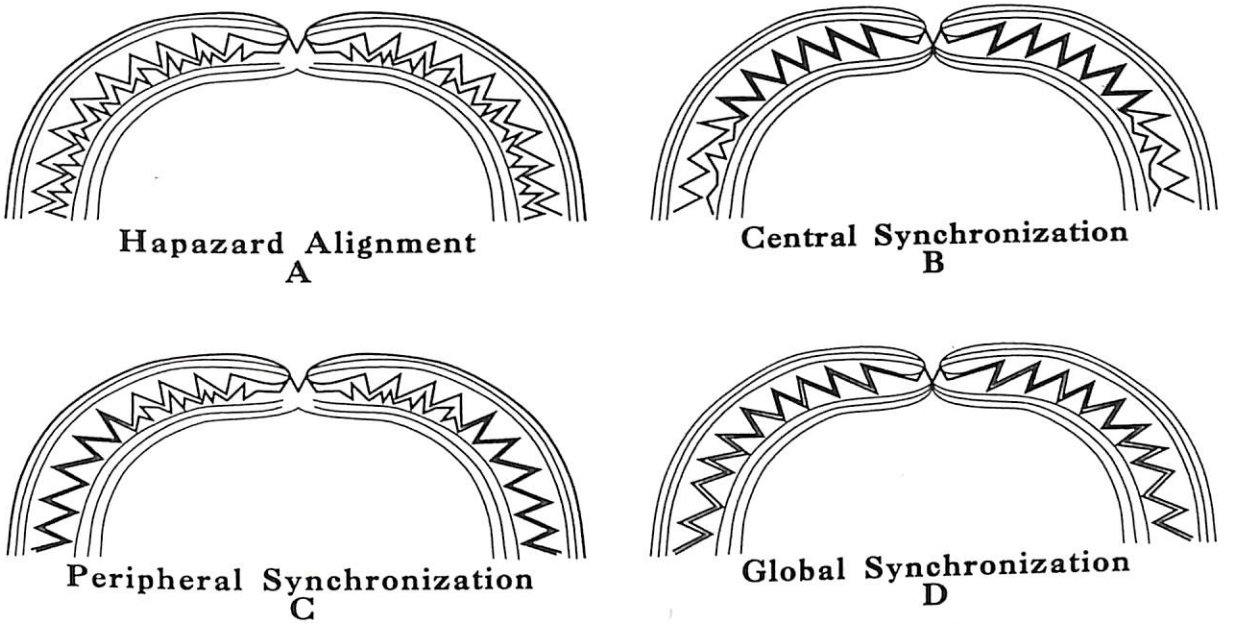
There are two hemispherical discs, left and right, in the cerebral cortex. Each disc is made up of an upper (supramodular) and a lower (modular) half, separated and united by the 'gate', the transcendental core. At the 'pith' of the transcendental core, the events are represented by frequency, cycle/sec, space/time. Different ways of alignment and synchronization* of the modular and supramodular cortices through the transcendental core, could offer an explanation for dreams, supracortical phenomena, samadhi and supracortical creation.

Mechanism

Synchronization* of modular and supramodular cortex could be focal and hapazard; focal and properly aligned, unilateral or bihemispheric; central and bihemispheric; global.

1. Focal and hapazard alignment of the upper half and lower half of the hemispherical discs could be responsible for the hapazard association of events in REM dream (Fig 2.1 A).

*"Synchronization is the simultaneous occurrence of two meaningfully but not causally connected events" - Carl Jung.



Upstair Downstair Relationship during Dreams and Samadhi

FIG. 2.1

2. Focal and properly aligned (Fig 2.1 B and C).
   a. unilateral synchronization could explain:
      i. supracortical phenomena, like clairaudience, clairvoyance.
      ii. NREM dream.
   b. bihemispheric synchronization could explain
      i. supracortical phenomena like telepathy, planchette.
      ii. the genesis of clues of discovery during dream (e.g. Otto Lowei's dream of chemical transmission in synapses).
3. Bihemispheric central synchronization of upstairs and downstairs (Fig 2.1 B) could be the starting point for samadhi. During samadhi the 'cosmic' and the 'earthly' facets vibrate with the same frequency. There is an integration of reasoning (cortex), feeling (limbic pleasure triangle), instincts (reticular core), values and Grace.
4. There are people, who being in the 'samadhi state', recruits the peripheral parts of the hemispherical discs. The synchronization process extends (Fig 2.1 D) for an ultimate global synchronization.

Incorporation of third cortical layer in the modular operon results in illumination, of second cortical layer, intuition and of first cortical layer, revelation. Limbic system experiences ananda. The illumination, intuition and revelation are expressed in clothing of words, art, music etc. (supracortical creation).

Some Details of Samadhi

Attention is self-consciousness directed towards a subject/object/abstract. At the beginning, there is a left hemispherical bias and the process intends to get rid of it. Concentration starts when the hemispherical bias is zero. The intention is to achieve stair-synchronization. Meditation starts with no hemispherical bias and perfect stair synchrony and continues for cosmocortical synchrony. Samadhi is the process of biologization of supracosmic consciousness, possible only following cosmocortical synchronization. With bihemispheric integration, self-consciousness of the being evolves along the hierarchy of the Great Chain of Being.

The hierarchy of samadhi as described in yogasutra of Upanishad, their neurological substrate and relationship with Great Chain of Being have been tabulated below.

Hierarchy of Samadhi as described in yoga-sutra of Upanishad.	**Neurological substrate.**	**Great Chain of Being.**
	Bihemispheric Synchronization with	
Tamas predominating Samadhi.	Brainstem Predominance.	Brainstem being
Raja predominating Samadhi.	Limbic system predominance.	Limbic being.
Satva predominating Samadhi.	Cortical predominance.	Cortical
On the verge of Brahaman Vigyana.	Cortico-supracortical love play.	Supracortical being.
Beginning of Brahaman Vigyana.	Supracortical predominance.	Supracortical godhead (Purushottama)
New creation in Samadhi state.	Biologization of supracortical consciousness through limbic pleasure triangle at the level of final common motor pathway.	Supracortical Antonomy (Sadguru).
Mahasamadhi.	See below.	See below.

A Few Words on 'Mahasamadhi'

Mahasamadhi is the terminal phase of the process of living in a samadhi state and is exhibited by Supracortical Autonomy during the great transit from the physical body. The supracosmic consciousness synchronizes through neural infrastructure with the target organs, tissues and cells. Differential functions cease. The lungs stop, the heart does not beat. There is electrocerebral silence. All the so-called doctor's signs of life disappear. The Sadguru becomes an immobile living block of consciousness.

In the last half of twentieth century, there are three historical examples of such Mahasamadhi: of Sri Aurobindo on fifth December, 1950, in Pondicherry, India; of Paramahansa Yogananda on seventh March, 1952, in Los Angeles, California, USA (See, Autobiography of a Yogi, Jaico Publishing House, Bombay, 1975); and of Akhandamandaleswar Sri Sri Swami Swarupananda Paramahansa Dev on twenty first April, 1984, in Gurudham, Calcutta.

Chapter 3

Dreams Fantasy and Infatuation Their Cortical and Supracortical Components

Dreams, fantasy and infatuation arise out of 'frozen' imaginations. The former two arise out of an intrinsic mechanism and the last one requires an external sensory stimulation. To understand these, one should first understand what imagination is and how it differs from interpretation.

Imagination and Interpretation

Imagination is the finest thread between infinity and the finite, between the eternal and the evanescent, between the immortal and the mortal. With growth of the brain, the concept of eternity and infinity as well as that of evanescence and finite, changes.

The imagination of a child is a reality in adolescence and the imagination of a young scientist is the reality of a Nobel Laureate.

Imagination should not be confused with interpretation. Imagination is a cortico-supracortical phenomenon. Neurobiologically it originates in the cortex. Interpretation is a limbico-cortical phenomenon. It begins with a feeling, in the limbic system. Memory circuits are not needed during imagination because it is essentially an upstair activity. Memory circuits are essential for interpretation, which is essentially an affair of downstair modular operon. When a so-called 'imaginative' writer describes vividly the bodily exposure and intimate relationship of a physical love making, he is not really imagining. He is describing the act, in comparison to various patterns which he is digging out from his dorsomedial thalamic nuclei, the phylogenetic store house, or those acquired in the cortico-hippocampal circuits. He is really displaying the Augean stables in name of art. Imagination, on the other hand, is an adventure for a new, the new for one's own biological system. Its pleasure is in surpassing all existence to have something beyond. That's why, probably for Albert Einstein, 'Imagination is more important than knowledge'.

The conversion of imagination into earthly reality is basically an establishment of a 'passage' for the cosmic or supracosmic vibration from first layer neuron to sixth layer neuron

in the cerebral cortex. It needs, of course, the permissiveness of the region, responsible for 'self-consciousness'. Most of the imaginations, in fact, do not enjoy such an eventful fortune. On the contrary, they suffer from premature 'death'. They are unfortunately 'frozen' in the passage. This 'frozen' imaginations could be fossilized, purged or reawakened (see following table).

Fate of Imagination

A. Brought down to reality.

B. 'Frozen'.
   1. 'Purged'.
   2. 'Fossilized'. Could not be reawakened.
   3. Reawakened.
      a. by intrinsic mechanism. Dreams and fantasy.
      b. by extrinsic mechanism. Infatuation.
      c. by drugs - Psychedelic experiences.

Two Morphological categories of 'frozen' imagination

The neural substrate for imagination has been described above. If it is not materialized, it gets 'frozen". There are two categories of frozen imagination.

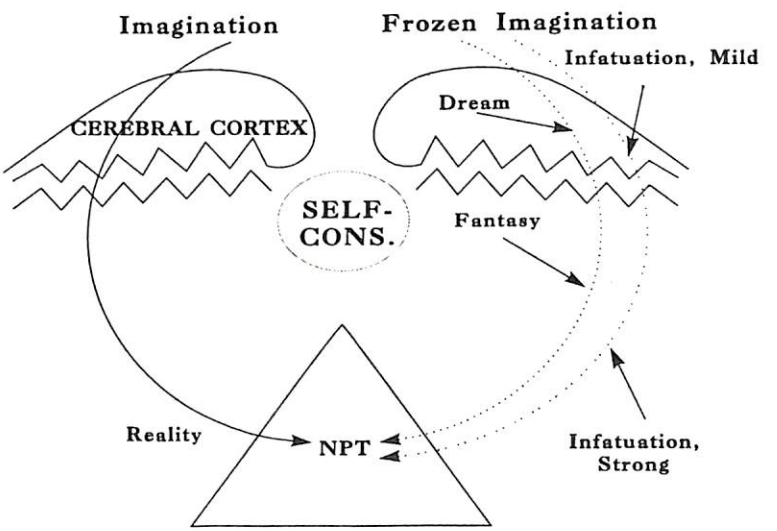
a. Imagination, frozen in supramodular cortex.

b. Imagination, frozen in modular cortex.

The first group is involved in dreams and mild infatuation. The second group is involved in fantasy and strong infatuation (Fig. 3.1).

Dreams and Fantasy

During a dream there is 'reawakening' of 'frozen' imagination in the supramodular cortex by focal, 'hapazard' or 'aligned' synchronization of modular and supramodular cortices with or without recruitment of modules, responsible for self-consciousness, resulting in self-conscious and non-self-conscious dreams. The non-self-conscious dream has also been



Imagination Dreams Fantasy Infatuation

FIG. 3.1

said to be one of the mechanisms of automatic purging of memory. The limbic pleasure triangle (NPT) may be mildly, or lightly involved during upstairs and downstairs synchronization of the dream, making a dream pleasurable or horrible.

During fantasy, there is reawakening of 'frozen' imagination in the modular cortex by focal but 'aligned' synchronization of modular and supramodular cortex. So, once reawakened the fantasies appear stronger, more compulsive, more down to earth. Unlike that in dreams, the process always involves self-consciousness. Fantasy is always associated with the awakened state. The dream on the other hand, is almost always a phenomenon during sleep. The exception is the 'day dreaming'. The limbic pleasure triangle is deeply or strongly shaken in fantasy. When it is acceptable, pleasurable, it is fantastic! When it is not, people are advised to discard it as just a fantasy !

Comparison of Dreams and Fantasy

Parameters	**Dreams**	**Fantasy**
Awakening by intrinsic mechanism.	Frozen imagination in supramodular cortex.	Frozen imagination in modular cortex.
Quantitative difference.		Stronger, more compulsive, more down to earth.
Relation to sleep.	Almost always associated with sleep. Exception, Day Dream.	Always in awakened state.
Self-consciousness.	a. Involved. Self-conscious dream. b. Not involved. Nonself-conscious dream.	Always involved.
Involvement of NPT	Mild and superficial.	Strong and deep.

Here, we are reminded of the valuable observations of Wilder Penfield in forty out of five hundred twenty cases. He was successful to note down mental experiences only during stimulation from external surface of the cerebral cortex of temporal lobe. This evoked mental experiences have resemblance more to dreams than to memory, more to fantasy than to retrieval. (Ref. The Penfields studies, in Memory and Brain, by Larry. R. Squire. Oxford University Press, New York, 1987, pp 75-84).

Infatuation

The basic difference between infatuation and dream or fantasy is in the mechanism of 'reawakening'. During infatuation, it is reawakened by an external object representing the reality of this imagination. Frozen imagination in supramodular cortex when reawakened, results in mild infatuation and that in modular cortex, when reawakened, results in strong infatuation.

Relation with Insanity

British Neurologist Huglings Jackson said, "Find out about dreams and you will find out about insanity". And, I always say that the difference between sanity and insanity is the integrity.

Ronnie Laing expresses the theme in the same note. "Mystics and schizophrenics find themselves in the same ocean, but the mystics swim whereas the schizophrenics drown". So, "Instead of mental hospitals, we need initiation ceremonies in which the person will be guided through inner space by people who have been there and back again".

I have proposed the existence of a Biological Integration Centre in the brain which integrates five vital phenomena in biology namely love, sex, ego, life and death. There exists also an integration process for reasoning (neural substrate is cortex), feelings (neural substrate is limbic pleasure triangle), instincts (neural substrate is reticular system), values and Grace. Another integration process exists which integrates diffuse pouring of supracosmic Grace on the cerebral cortex into a final common channel for execution. I also believe that the integration centre for each of the above three integration processes is identical and is the highest biological homeostat.

Psychedelic Experience

Frozen imaginations could also be reawakened by psychostimulant drugs e.g. L.S.D. The interested reader is requested to go through the work of Stanislav Grof. From his LSD-sessions, he has derived "Psychedelic cosmology and ontology". He concludes that "symptoms of mental illness represent frozen elements in experimental patterns that needs to be completed and fully integrated if the symptoms are to disappear. Rather than suppressing symptoms with psychoactive drugs, this kind of therapy activates and intensifies them to bring about their full experiences, integration and resolution".

Important Questions

This essay provokes thought in the following directions.

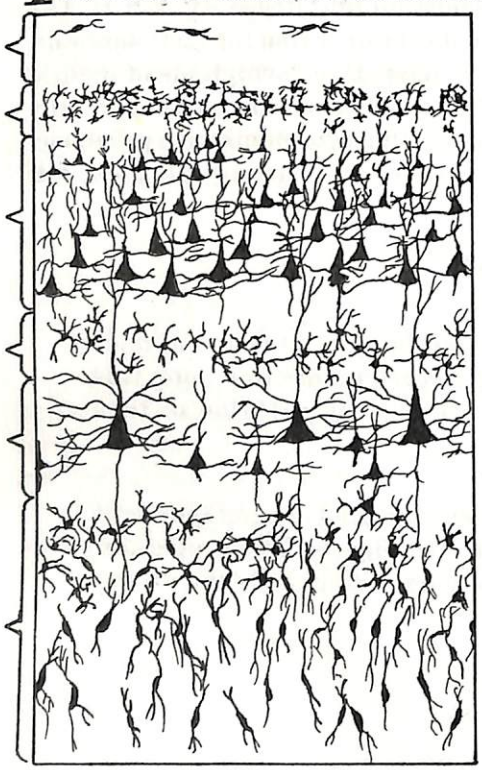
1. What does one mean by 'frozen'? Is it 'frozen' in mechanical, structural, morphological, biochemical or molecular level? What freezes them? How long this frozen state could be maintained? How and when are they purged? How do they pass into phase of 'fossil'.
2. A patient's question.
   I had a dream. The neurophysiologists told me it was localized in right temporal cortex. The neurochemist named some chemical messengers. You people are designing a mechanism of dreams. But I want to know, 'What does the dream mean'?

Chapter 4

Lamination of Cerebral Cortex Its Cause and Pathologic Significance

Introduction

The cerebral cortex has a laminated structure. The reasons for lamination are not clear. The three causes which I ascribe to this lamination are as follows. The lamination could result in from the method of engramming the stratified stability of neuraxis in a small consolidated area. It could also be due to the effect of gravity. And it could be due to the result of a mechanism of construction of a 'sensing' organ which has to bring down the crystal consciousness of the cosmos into a space-time world.



Laminated Cerebral Cortex
FIG. 4.1

Because of reason three, the transcendental core has developed for the interaction of two forces; one from above acting predominantly on the upper layers and one below, feeding predominantly the lower layers of cerebral cortex.

This chapter highlights the causes of lamination, the relevance of this transcendental core in heart failure and the neuropathologic significance of this lamination.

Lamination

The neurons of the cerebral cortex are arranged in six layers. The layers are identifiable under light microscope with special stains (e.g. Golgi), under scanning electron microscope (SEM), and in a low power transmission electron microscope (TEM). There is no identifiable barrier between the layers. There is no clear cut demarcation either. But the arrangement of the cells and their fibres

are such that this lamination is easily revealed to morphologists. The probable reasons for lamination are mentioned below.

Probable Reasons for Lamination

1. The whole neuraxis has a stratified stability. This stratified stability of the whole neuraxis need to be engrammed in the crowning structure, the cerebral cortex. The six integration centres of the segmental neuraxis (four in the spinal cord, one in the brainstem, one in the hypothalamus) are hierarchically linked with six layers of cerebral cortex[1]. As the segmental neuraxis evolves, so the higher parts do.
2. Being at the top of the neuraxis, the cerebral cortex is under constant pressure of gravity. There are views which say that gravitational force is essential for structure formation. Warping of space time is gravity and the structure is a purposeful relation of space and time. Structure formation is an essential prerequisite for life. The cerebral cortex is the highest centre for life. In the Akhanda Paradigm, the 'life' comes from above through cerebral cortex.
3. The cerebral cortex is an organ which is responsible for bringing down the supracosmic consciousness into a space time world. The cortical neurons during their phylogenetic race and in their ontogenic journey have cashed on their two properties — the serenity of the genes and the polarity of the membranes, the purpose being biologization of cosmic and supracosmic consciousness[2]. The hierarchy of the qualities need to be maintained, from 'openness to the cosmos' to the 'teething anchorage on the ground'. The morphological layering depicts different phases and phase transition from supracosmic consciousness to the space time world. There is pattern within the pattern and a pattern within it and so on. A cascade of such inversions (see, chapter 9) brings this laminated cerebral cortex.

Emergence of Transcendental Core

In the dynamics of the morphology of the cerebral cortex, there are trophic signals and guidance offered by neural cell adhesion molecules[3]. There is bootstrap mechanism. There are regressive events like cell and fiber loss. These local organizing factors are influenced by two forces; one from above, the Higher and the other from below, the lower. The lower force is Darwinian ('population thinking' and 'natural selection'). Competition amongst neurons under selection could create structure[4]. The Higher Force is what spiritualists call 'Divine'. Either way, because of constant moulding under the influence of the two forces, the cerebral cortex differentiates into two functional zones, the upstairs and the downstairs with a transcendental core in between. Concretization of the abstract and abstraction of the concrete are functions of the transcendental core.

The Pathologic Significance

There are certain lesions in the brain which have a laminar distribution in the cerebral cortex. The transcendental core, uniting the upstairs and downstairs, is the 'heart' in the brain.

The lesion of the third layer neurons and / or fifth layer neurons (the executive neurons) are more relevant in the life and death question of the being.

The neural substrates for Love, Devotion and Faith are in the first, second and third layer of cerebral cortex respectively. It is faith, that is shaken vigorously during a deadly stress. It is the third cortical layer which shows significant neuron loss during most primitive stress e.g. hypoxia or global cerebral oligemia in hypovolemic shock[4]. It is accompanied by involvement of the fifth layer neurons, the prime motor executive of the downstair cortex. Is it then true that ischemia and necrosis of neurons in such laminar fashion dissolve 'faith' and bring about its consequences.

The Transcendental Core and The Heart Failure :

The transcendental core is the *'HEART'* in the brain and is intimately interconnected with the heart in the thoracic cavity. The cause of sudden heart failure or cardiac standstill is located precisely here. The cardiologists who analyse *underlying causes* of heart failure e.g. hypertension, valvular or ischemic disease or cardiomyopathy etc. and *precipitating causes* (emotion, infection, toxin, hemodynamic or biochemical stress, etc.) for failure of heart, must now pay attention to this transcendental core. When the transcendental core fails to translate the supracosmic vibration in biophysico-physiological rhythm of the system, the heart fails. If the process does not reach the stage of irreversibility, the chance of recovery depends on how effective is the mechanism in which the upstair neurons 'pass' their message to the downstairs neurons.

Hypoxia

1. The most primitive stress to life is hypoxia. Most vulnerable to it are third layer neurons of the cerebral cortex. The neurons in the fifth and sixth layer are second in the list and those of second and fourth layers are most resistant to such stress[5].
2. Laminar necrosis of the cortex :

   In hypovolemic global cerebral ischemia, there is laminar necrosis of the cortex. The lesion is remarkable in neonatal cases. It has also been developed in experimental animals during hypoperfusion.

Laminar distribution of lesions in gerohistology of cerebral cortex :

Prof. A. K. Scheibel prefers to designate the senile changes in the brain, as gerohistology, rather than histopathology. In search of some neural substrates for aging, his group found that though the senile plaques and other lesions do not show any laminar selectivity, the fifth layer neurons are found to be reduced in number, more significantly than the number of neuron loss in other layers[6].

Dementia Syndrome :

Neuronal loss in circumscribed cerebral atrophy of Pick's disease is reported to have a laminar distribution of cell loss in the cortex involving mostly layer three and then layer two and five[7]. Neuronal loss in spongiform encephalopathy, though involves all the layers, is most prominent in the third and deeper layers of the cerebral cortex. In other organic dementia syndromes also, it is worthwhile to search for a correlation between the laminar march of the pathological process and the progress of clinical symptomatology.

Carcinomatous infiltration of the leptomeninges has also been reported to lead to dementia[5]. To find out the mechanisms for such a development will be interesting.

Metabolic and Toxic Encephalopathy :

One of the histological changes which posed a difficulty in the interpretation of nearly 300 cases of Cruetzfeldt Jakob disease by Prof. Masters and Prof. Gajdusek was "the occurrence of vacuolation in the most superficial layers of the cerebral cortex, the molecular layer and the subpial zone. This type of vacuolation is proven to be non-specific, being present in association with anoxic and metabolic derangements preceeding death[8].

Why are the superficial layers mostly involved in metabolic and toxic encephalopathies? For how long will these changes be discarded as nonspecific? How could these changes make contribution to the development of coma in such conditions?

Frontiers for Research

What has been highlighted opens up multiple frontiers for research. Biologization of gravity, the biophysico-neurophysiological aspect of the cerebral cortex, the significance of laminar distribution of lesions in life-threatening diseases, and dementia are few to name here.

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Chapter 5

Purusha and Prakriti in the Nervous System

The Dynamic Web of Supracortical Consciousness (chapter five, page 52-57), brings the Vedantic concept of Purusha and Prakriti in the Nervous system. The phase specific-consciousness from the brainstem to the cortical area for self-consciousness through the midline diencephalic system represents Jivatman (The 'soul' of philosopher). The integrated and absolutely purified self-consciousness represents Atman. The Supracortical Consciousness could be Paramatman. Three unified, is the Purusha and the rest of the nervous system is the Prakriti.

Prakriti has two facets: concealed ('open' to Purusha) and revealed. Most of the revealed facet is known to us. One becomes aware of the concealed facet of Prakriti during different phases of transformation. The existence of the Purusha (the inner immobile being) is experienced during the phase of Descent.

Neural Substrates for Purusha & Prakriti

Sri Aurobindo prefers to call Purusha as the inner immobile being. Aristotle's entelechy is the deeper surging being, striving for perfect perfectness. The central reticular core of the neuraxis is the neural substrate for the concealed part of the Prakriti, the deeper surging being. The central most core of the neuraxis is the Purusha. It is difficult to find out a neurological substrate for it. This is the central consciousness axis which forms an inseparable chum with the high energy domain, which on the other side unites with seven integration centres of the neuraxis.

Some neural substrates for Prakriti

Two facets of Prakriti	:	1. Concealed; central reticular core. 2. Revealed.
Three modes of Prakriti	:	1. Cortical Consciousness. 2. Limbic system consciousness. 3. Brainstem consciousness.
Pleasure triangle of Prakriti	:	Two lateral amygdalae and septal nuclei form the neurological pleasure triangle.
Four expressive routes of Prakriti	:	1. Emotional(Limbico-hypothalamic). 2. Intellectual (limbico-cortical-associative). 3. Mystical(limbico-cortical-decisive). 4. Executive (limbico-strial).
Five natural traits of Prakriti	:	Love, Sex, Ego, Life, Death.
Dualism in Prakriti	:	Hemispherical bias during information processing and responsivity.
Class struggle in Prakriti	:	Culminates in upstairs and downstairs division of cerebral cortex.
Politics in Prakriti	:	Generated by diffuse 'pouring' of the Grace on cortex.

Differential Involvement of Purusha and Prakriti in some Higher functions of the Nervous System

Followings are the cross sectional diagrams of the neuraxis depicting three concentric ellipses. From within outwards, they represent Purusha (inner immobile being), the concealed facet of Prakriti (deeper surging being) and the revealed facet of Prakriti. There are six groups of functions with differential involvement of three concentric ellipses.

Group A

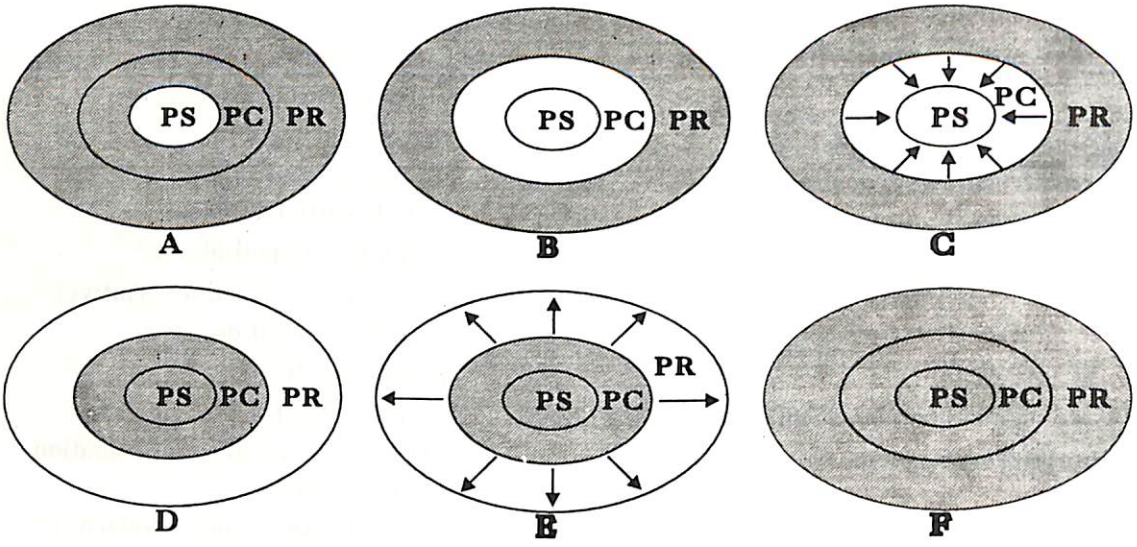
Functions confined to Prakriti only. Purusha is completely dissociated from the function (Fig 5.1 A).

Example: Sleep.

Group B

Functions confined to the revealed facet of Prakriti. (Fig. 5.1 B)

Examples: Non self-conscious dream.
REM dream
Procedural/skill memory
Habituation and classical conditioning.
Sensory Discrimination



PS = Purusha **PC = Prakriti (Concealed)** **PR = Prakriti (Revealed)**

Shaded area : Active

Relation between Purusha and Prakriti
FIG. 5.1

Group C

Functions mainly confined to revealed facet of Prakriti but eventually involving the concealed parts also (Fig. 5.1 C).

Examples:	Imagination	Clairvoyance.
	Thought reading	Clairaudience.

Group D

Function confined to Purusha and the concealed facet of Prakriti (Fig. 5.1 D).

Examples:	NREM dream	Faith
	Episodic memory	Devotion
	Imprinting	Awakening of integration centres.
	Self/Non-self discrimination	
	Real/Unreal discrimination	

Group E

Functions mainly confined to Purusha and concealed part of Prakriti but could extend peripherally also (Fig. 5.1 E).

Examples: Biologization of Supracortical consciousness.

Love	Intuition.	Planchette.
Ananda	Illumination.	Fantasy.

Group F

Global involvement (Fig. 5.1 F).

Examples: Revelation

Supracortical creation.

Sleep in Supracortical Parlance :

If one meditates deeply, one's requirement for sleep is significantly reduced. The reverse is not equally true. During the early phase of meditation, one passes through a sleepy state. During sleep, there is quitening of infracortical stimuli so that the 'pouring' from cosmos on the cortex becomes more effective. There is 'purging' of frozen imagination in dream (see chapter three) and this is the way the brain gets rid of its probabilities of 'dangerous' neural associations being concretized. In the dolphin, only one half of the brain goes to sleep at a time. An element of consciousness is essential to distinguish REM and NREM sleep. The 'Purusha' never sleeps. Sleep is a function of Prakriti.

Chapter 6

The Milestones of Human Life

Consciousness and Life

Life is not a synonym for Consciousness. The greatest gift to a person is not life but consciousness, which brings meaning to life. For life to emerge, evolve and transform, one needs: (i) a material infrastructure, (ii) a process of integration and (iii) the play of Grace/Mother Nature, the executive front of Consciousness. Life as we perceive, is manifestation of the Grace through an integrated infrastructure of matter. The cardinal sign of life is a continuous process of self-organization, and in this sense our universe is alive but a stone is not. Consciousness is present in the stone but its infrastructure of matter is not integrated enough to manifest the Grace as life. As the minerals in the bone are part and parcel of a living animal, so also the stone is a part and parcel of the living universe.

The phase specific consciousness of life merges with the supracosmic consciousness through several phases and phase transitions which have been 'structured' as transcendental core, as described in chapter one. It is this transcendental core which keeps the system open to the cosmos. This transcendental core is the physical basis of open mind which is responsible for self-organizing capacity in living state. In a unicellular organism, the cell membrane represents the materialistic basis of the transcendental core, and is the 'gateway' of communication of consciousness inside and consciousness outside the cell.

How consciousness was brought down to matter, how integration developed in the structured matter, or how the first life came on this earth, (or did it come from outer space?), and how did it evolve from the self-replicating protein, "prion," to a human being are all profound questions. To find the answer to these, the scientists have been toiling continuously for centuries. We are not in a position to answer those questions here. In this chapter, we are to discuss the various forms of human life in the context of Infrastructure, Integrity and The Grace.

Requirements for life

1. An infrastructure, supposedly shaped by the gravity.
2. A process of integration.
3. The Grace, the executive facet of Consciousness.

Life in Human being.

The material infrastructure for human life is the brain, the most complex, most structured, most integrated of all organs, where the phase specific consciousness of each neuron communicates with that of other through a tiny transcendental core in the synapse, where ensembling of cells has given rise to stratified stability, where centres of life have shifted gradually from the segmental neuraxis, through the brainstem, the limbic system to the cerebral cortex, conferring autonomy to the lower centres after those have achieved a perfect perfectness to live in harmony with the whole system.

Milestones of Human Life

We are here to discuss the milestones of human life under three major headings.

I. Milestones of human life when there is serious physical damage of the infrastructure.

II. Life without and with integration.

III. Milestones of human life when the infrastructure, the process of integration and the Grace are all in harmony. The Great Chain of Being.

I. Milestones of Human life when the infrastructure is grossly damaged :

A. Artificial Life :

When the brain is completely non-functioning and the functions of heart and lungs are done with mechanical support (e.g. heart-lung machine, respirator), one gets an 'artificial life'. The condition is also described as cerebral death. The criteria for defining cerebral death are different from centre to centre and from country to country.

"Alpha-Coma" is a variant in this zone of the spectrum. Inspite of apnea, absent brainstem reflexes and vital signs, EEG- records show an alpha wave.

B. Brainstem Life :

The patient is in coma. Brainstem reflexes (e.g. pupillary reflex, corneal reflex, oculocephalic reflex, vestibulooccular reflex, pharyngeal, gag and swallowing reflexes, cough reflex etc.) are equivocal. Vital functions like cardiac action, respiration, vasomotion are well maintained in absence of biochemical or hemodynamic stress. There is no mentation. There is no volition either.

There is electrocortical silence. Depth recording and evoked response are equivocal (+/-).

C. Life with a 'traumatized' Soul :

Neurologically we have defined soul's representative as the brainstem-cortical current through thalamic/extrathalamic pathways and limbic pleasure triangle.

A large population of cerebral injury subjects with gross damage of the above neuronal connections, belong to this category of life with traumatized soul.

State of consciousness - Varies.

Mentation	+/-	Initiative - Nil
Feelings	+/-	Imagination - Nil
Memory	+/-	Bioelectrical activities (EEG, ER, Depth recording) variable.
Expressive behavior	+/-	Integrity - Variable

The etiology of 'Life with traumatized soul' may be organic or functional. The latter causes include disturbance in neuropeptide, neurotransmitter, neurohormones etc. Organic causes range from a traumatic or vascular insult to demyelinating or dysmyelinating diseases.

D. Decorticated Life :

In neocortical death, or in bilateral destruction of the cerebral mantles, the patient is unconscious with intact brainstem functions (vital functions and brainstem reflexes). The EEG is isoelectric. Depth recordings are equivocal (+/-). Higher functions i.e. mentation, volition are absent. Secondary morphological changes have been reported in basal ganglia, thalami, cerebellum.

The subject is very much succeptible to any form of stress (hemodynamic or biochemical). Laminar necrosis of cerebral cortex with selective destruction of the third and fifth layer neurons of cerebral cortex in hypovolemic global cerebral ischemia could also give rise to this form of 'temporary' life, which eventually leads to cerebral death.

II. Life without and with Integration :

The demarcation between physiology and pathology is *integrity*. The presence of integrity differentiates sanity from insanity. Integrity in a closed system (e.g. machine) conditions it for automation. Integrity in an open system (e.g. life) conditions it for gaining autonomy. In a system like the nervous system where ensembling and stratified stability are observed, where 'life' has been hierarchically concretized, integration is a most complex phenomenon.

A. Life without Integration :

1. Global mechanical disintegration of neurons :

A condition where integrity of the person is unequivocally absent is the dementia syndrome. If one looks at the basic pathological process in the neurons of brain of dementia patients, senile or presenile (Alzheimer's disease), one finds neurofibrillary tangles inside the neuron as the morphological hallmark of the disease.

The five organelles of a cell, namely cell membrane, DNA-replicating apparatus, DNA-transcription with protein synthesis apparatus, mitochondrion and lysozome (representative of love, sex, life, death and ego respectively) are spatiotemporally integrated by the cytoskeleton of cells. And we know, the neurofibrillary tangle is representative of deranged cytoskeleton. So, could this mechanical disintegration of the individual neurons throughout the brain manifest itself as the dementia syndrome in a person?

Applying the same principle, one may find out biochemical integration mechanism, integration at quantum mechanical level and may find explanation for various types of psychosis.

2. Disruption of integration of a vital organ :

Heavy alcohol drinking does affect the integrity of the person, although transiently. When the habit continues for months, the brunt of the load falls on the liver, the organ where alcohol is metabolized. The liver cell eventually loses its integrity. One develops alcoholic hepatitis or alcoholic cirrhosis, the morphological hall mark for which, is the presence of Mallory hyaline within the liver cell.

And, you know! Mallory hyaline is derived from the deranged cytoskeleton which has resulted in the spatiotemporal disintegration of the five vital organelles of the hepatocyte.

Applying the same principle one can explain the origin of disease in many other organs of the body with various types of disruption of integrity of the organ at (i) mechanical level (ii) quantum mechanical level or (iii) biochemical level.

3. Autonomy without Integration :

Integration of the four phenomenal hands of consciousness namely time, space, cause and pleasure is essential for hierarchical transcendentalism.

When autonomy is conferred before integration, disaster is the outcome. Look at a cancer cell. The cancer cell gains autonomy leaving the 'cause - cue' totally out of tune. It is completely out of tune with the purpose it is meant for. Its pleasure is expressed as mad ecstasy, leaving the whole system in chaos by its very presence.

There are several human beings who have gained autonomy before achieving biological integration. They may dedifferentiate, may undergo anaplasia and metastasis. Beware of such 'cancers' in the human race.

B. Life with Integration :

Life with integration is the first step towards Bliss. Following integration, come purity and perfection. The perfect perfectness conditions it for gaining physiological autonomy, provided it does not disturb the harmony of the Whole. In this way the human life eventually achieves the Highest achievable. His nature becomes Mother Nature and He is then Consciousness.

III. The Great Chain of Being :

When the infrastructure, the process of integration and the Grace all work in harmony, we get the Great Chain of Being. The infrastructure is elevated to the level of the State of Grace. There are following integration in the process.

1. Integration of five biological phenomena, namely Love, Sex, Ego, Life, and Death.
2. Integration of Reasoning (cortex), Feelings (Limbic pleasure triangle), Instincts (reticular core), Values and Grace.
3. Integration of diffuse 'pouring' on the cortex.
4. Integration of left and right hemispheres, of upstair and downstairs of cerebral cortex and of the cosmos and upstairs of the cortex.

The centre for all is One, the Supreme Biological Homeostat. The Supreme Biological Homeostat 'senses' the Grace and the cortical being evolves, with time, as follows:

1. Supracortical being.
2. Supracortical godhead (Purushottama).
3. Supracortical autonomy (Sadguru).

This three phases follow the development of Supreme Biological Homeostat. Prior to this, human being had been in the lower half of the chain, the landmarks for which from below upwards are:-

1. Brainstem being.
2. Limbic being.
3. Cortical being.

The characteristic features of six great landmarks are described below

Brainstem being	:	Brainstem consciousness personified. He is awake, alert and oriented.
Limbic being	:	Limbic consciousness personified. He is motivated to seek pleasure and avoid the unpleasant. "Ananda" is experienced by those who have a well developed limbic system. This happens following supracortical opening.
Cortical being	:	Cortical consciousness personified. He is intellectual, self-conscious, creative person.
Supracortical being	:	A personality beyond the polar opposites, having an ego dominated by love. He observes ascetic restrain of the limbic system. He has an inexhaustibility, within cortical limits.
Supracortical godhead	:	He is a living example of everlasting (Purushottama) ascension for the human soul. His elevating and magnetic attractiveness help others to cross the great void.
Supracortical Autonomy	:	Inexhaustible everness and melting love are two cardinal signs of flawless autonomy conferred on the human brain. If nature permits, such persons pass through Mahasamadhi (Chapter two).

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PART - II

The Paradigm

"The people who bind themselves to systems are those who are unable to encompass the whole truth and try to catch it by the tail; a system is like the tail of truth, but truth is like a lizard; it leaves its tail in your fingers and runs away knowing fully well it will grow a new one —-."

- Ivan Turgenev.

Chapter 7

Paradigmogenesis

What Does a Paradigm Mean?

In the opening paragraph of this book on page three, we have travelled from Facts to Truth. It has been mentioned there, that the paradigm is a reflection of the Truth. Depending on the nature of the reflector, there originate some assumptions which underlie the connected theories in a paradigm.

The paradigm, 'On the one hand', says, Thomas Kuhn in The Structure of Scientific Revolutions[1], 'stands for the entire constellation of beliefs, values, techniques and so on shared by the members of a given community. On the other hand, it devotes one sort of elements in that constellation, the concrete puzzle solution which employed as models or examples, can replace explicit rules as a basis for the solution of the remaining puzzle of normal science'.

The paradigm also addresses the community of the adherent, prescribes the way in which the results are to be interpreted,[2] and in the process it guides the work of an enduring number of scientists in their scientific pursuits[3].

The Nature of a Paradigm is determined by States of Consciousness of the Brain

The paradigm is born in nature's laboratory out of a given state of information processing and responsivity of the brain, from a set of informations received through sensory and supracortical routes. The similarity between states of consciousness (SoC) and the nature of paradigm has been pointed out by Charles Tart, in 1972. He emphasizes, 'Both constitute complex interlocking sets of rules and theories that enable a person to interact with and interpret experiences within an environment. In both cases, rules are largely implicit ....., they operate automatically and the person feels he is doing the obvious or natural thing.' [3] The state specific science is born, nurtured and grown through states of consciousness. So, 'our classifications may primarily reflect the structure of our minds' [2].

The Relativistic Paradigm of Einstein is an example of intellectual culmination of a profound, primarily a right brain activity, and the Paradigm of Quantum Mechanics is primarily that of the left. The Paradigm of Indeterminacy is a reflection of the dualism, not only of the right and left brain (Heisenberg's uncertainty principle) but also of the upstairs and downstairs (quantum indeterminacy of David Bohm, how more subtle enfolds the less subtle) and finally between small 'i' and the universal 'I' (Stephen Hawking's uncertainty at 'the edge of the universe' and Roger Penrose's in 'The Emperor's New Mind'). Indeterminacy ends in Monism, in Unity.

The paradigm is an intellectual triumph of the brain to affect the organization of almost all phenomena of its field [3]. Because of its 'disciplinary matrix', its implicitly set rules, it is rigid and yet it maintains an openendedness to encompass as much of the Whole as it can. When an integrated brain remains open to the Essence of the Multiversity, the scope of the paradigm remains unlimited.

Three Phases of Paradigmogenesis

The process of paradigmogenesis consists of three phases. A set of preparadigmatic events give birth to the paradigm. Then follows the morphogenesis and growth phase. Finally, there is establishment of the paradigm. A new, profoundmost experience is the beginning. The state which leads to this experience could be called pre-preparadigmatic state.

Pre-Preparadigmatic State :

The existing paradigm comes to an end. On one hand there is a 'blinding effect' of the existing paradigm[1]. On the other hand, there are discontent and revolts from its members.

During this period, the ways to a new experience are two; the two well defined ways to contact the Reality. First, the usual, the objective way through sensory data, intellectual excellence, coming across a void, an element of faith to outsmart void and finally a deep surrender to the 'Goal' (When I cannot do any more, let the Goal choose its means). The second is through subjective way of experiencing knowledge. This is deeply meditative, contemplative, an 'inward olympics'. The ways merge into one, near the real experience.

I. Preparadigmatic Events :

A profoundmost new experience, the 'gestalt switch' at culmination of experiential biology, and the 'intuitive leap' (in the language of Einstein) are three preparadigmatic events.

1. The New Experience :

A paradigm shift is preceeded by an exceptional, a profoundmost exceptional experience. It is exceptional, simply because it is looked upon as an exception to the existing paradigm.

Rhea A. White, the Director of Parapsychology Information Centre, New York, characterizes the exceptional human experiences (EHEs) as 'spontaneous', 'intangible', 'transcendent' and 'life changing'. They offer a 'growth opportunity' and bestow 'empathy for the entire ecosystem'. The person has 'not to think about it, the body tells it'. 'They are the calls to follow, not lead' [4]. She classifies 49 types of EHEs and proposes that "the seeds of our further growth are carried by our EHEs"[4].

But one has to be aware that all exceptions do not possess or have equal potential for a paradigm shift. Many may just stand as exception only. Many may contribute to the growth of the new paradigm, once the paradigm shift has already happened. To label a few of the EHEs prospectively, as preparadigmatic, one has to choose from those the most potent one(s) and follow them up. Though, sometimes the person can 'sense' his experience as preparadigmatic, the 'preparadigmatic' will be a retrospect characterization once the paradigm is born, grown and established. In the process, a few of the EHEs may remain as 'exception' to the emerging paradigm too.

The exceptional experiences which have maximum paradigmogenic potential, are those which involve Love, Sex, Ego, Life and Death, the Biological Integration Centre, the supreme biological homeostat and which have an element of the Grace phenomenon (see, chapter 36) in them. Their paradigmogenic potential manifests if the subsequent steps as described below could continue without hindrance.

2. The 'Gestalt Switch' :

When the experience becomes really unbearable in the physical body, by an unknown mechanism, by a kind of 'synchronicity', by 'meaningful coincidence' (Carl Jung), by the Grace phenomenon, by Supreme Consummation[5], during dream, during meditation, during active straining for a solution, the 'gestalt switch' is put on. The 'timing' is very important in the conception of the new paradigm at culmination of experiential biology.

3. The 'Intuitive Leap' :

The 'new' experience penetrates through the limbic pleasure triangle[6] and there is Ananda.[7] It is 'Ananda' which creates new space, new time. Structurally polylithic brain becomes functionally monolithic. There is illumination, intuition and revelation. The birth of a new paradigm is ushered.

II. Morphogenesis and Growth of the New Paradigm :

The paradigm grows by Autopoiesis. The unconscious, conscious and the highest conscious act in harmony. The brain having touched the Highest, communicates with the other brains in similar states of consciousness, may be through a superluminal plane or by quantum nonlocality. Something new comes out during this subtle dialogue. This is probably what Ervin Laszlo[8] points out as interactive creativity (The Genius Hypothesis). In this context, he refers also to Hegel's 'concept of zetgeist, the sprit of an age that infuses the minds of its contemporaries' and to the concept of 'collective unconscious' of Carl Jung to explain 'the phenomenon of sharing of mythic symbols and archetypes in diverse culture'.

During autopoiesis, the assimilation of similar other efforts for a new paradigm takes place. They are those efforts which started with not-that-profound experiences but which did possess a paradigmogenic potential and had been looking forward 'with the willingness to be transformed in the process of sciencing'[9] for submission to an evolutionary opportunism.

The paradigm grows by self-organization. So, in it one finds coherence, dynamicity and an implicit order.

The censoring authority during the growth phase of the paradigm is that central assumption, originated according to the nature of the reflector of the Truth.

III. The Establishment of the New Paradigm :

Once the morphogenesis and growth of the paradigm are complete, there are three important events.

One, there are 'state specific communications'[3] and validation.

Second, 'on being in the paradigm'[10], the bridge building between frontier science and previously mainstream science begins. The scientists look back for explanation and accomodation of those events and experiences which were labelled as 'exceptional' or 'anomalies'. This

> "bridge building from frontier to mainstream is a formidable task, far bigger than the academic challenge of rationalizing between different ideologies. Ideas do not stand alone. Scientific ideas and facts are hardly isolatable from the persona of the scientists who literally embody them, nor are they separable from the bureaucracies of big business. Thus, bridge building necessarily involves the world of politics within the institution of academy, government and industry. Discourse with key figures whose individual belief system carry political and financial clout is critical to bridge building. Individuals change only slowly, but large human systems transform even more slowly with much greater resistance. Thus, building a bridge from frontier to mainstream is a laboriously slow task."[11].
>
> — Beverly Rubik,
> Director, the Centre for Frontier Sciences, Temple University, USA,

In the final phase, the new paradigm throws its own stream in innumerable directions, spreads its authority to guide the neophytes and unleashes a new opportunity for bureaucratic careering.

After establishment of the new paradigm, the old one, the so called mainstream, is found retrospectively as 'out of stream'. The joy of the public which had been critical in effecting the new paradigm[12] all along, then knows no bound. With the confluence of different streams of the new and old paradigms, there is a flood, the flood of light.

Summary of the Phases of Paradigmogenesis

Pre-Preparadigmatic State :

1. Sign symptoms of the end of an Epoch.
2. The discontent and revolt by its members.
3. Two ways to a new experience.

Preparadigmatic Events :

1. A profoundmost new experience which is the 'exception' for existing paradigm.
2. Gestalt switching at the culmination of experiential biology.
3. The leap. Intuition, Illumination, revelation and Ananda.
   Ananda creates new space, new time.

Morphogenesis and Growth of the Paradigm :

4. The paradigm grows by autopoiesis.
5. Assimilation of similar efforts which were not-that-profound to give birth to a new paradigm. It is a kind of evolutionary opportunism for those having willingness to be transformed during 'sciencing'.
6. Self-organization from below upwards.
7. Censoring 'from above' by the original assumption.

Establishment of New Paradigm :

8. State specific communication and validation.
9. 'On being in the Paradigm', the bridge building starts accommodating those previously labelled as 'anomalous'.
10. Establishing itself as the mainstream, throwing its own stream, guiding its own adherents.

Possible Sources of Error and Quality Assurance during Paradigmogenesis

In a laboratory, the quality control officer looks at the preinstrumental, instrumental and postinstrumental phases to find out the sources of error in the result of investigations. The paradigm is born in *Mother Nature's laboratory,* the brain. Those who look forward to a new paradigm must be aware of the sources of error in all ten steps during establishment of a new paradigm.

When the rare human experience does not involve the supreme biological homeostat, and the gestalt switch is put on at wrong time or the infrastructure or the human brain is not ripe enough for intuitive leap, an error may be introduced at the initial phase.

If the brain is not well protected during autopoiesis, if the brain remains unaware of the similar efforts or is not active enough to assimilate them, self-organization may go slow or even stop at an incomplete level. Self-organization may get misdirected if the central assumption does not apply the censoring 'No' at an appropriate time.

A paradigm, far ahead of time, is often not understood by the contemporary scientists or there may be lack of state specific communications. That bridge building involves a world of politics has been pointed out. If the paradigm can survive through all these nine phases, then we can hope it would throw its own streams and lead to a flood.

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Chapter 8

Towards A New Paradigm

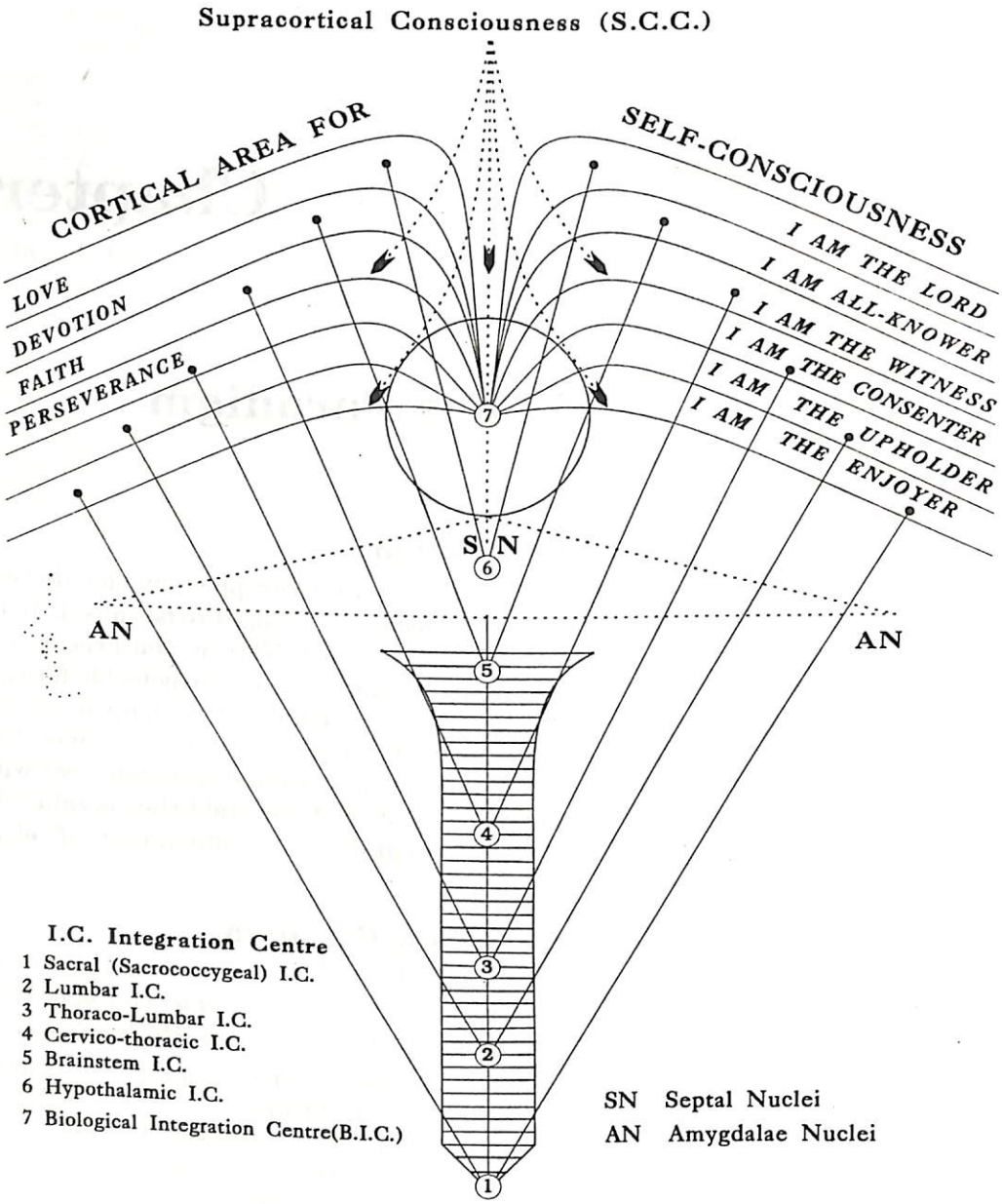
Introduction

Humanity is at threshold of a new formation. Concurrent to this phenomenon, there has been emerging a new paradigm in science where consciousness is thought to be causal. To know the modus operandi of consciousness, one has to know Mother Nature, the executive front of consciousness, the subtlest of subtle energy. The key organ which is responsible for emergence of a paradigm is the human brain. The human neuraxis is visualised as an inverted tree where the cerebral cortex receives information / energy / field / Grace / (?) from the cosmos. One of the purposes of evolution of the human brain is to establish identity of consciousness within and consciousness outside it. The 'context' in which this the identity is established is value. The most valuable value in this context is biological integration — integration of elementary phenomenology of Love, Sex, Ego, Life and Death.

Not a 'Shift' but a New Paradigm

It is the conscious brain which delivers a paradigm. It is the conscious brain which is responsible for a shift or a change in a paradigm or creation of a new one. Our starting point is this brain, the biological hardware for the mechanics of Consciousness-Mother Nature.

When we start with the statement that consciousness within and consciousness outside the brain are in love and the culmination of biology of the brain is in their unification, the much-awaited 'paradigm shift' begins. Then, if we add that the biological hardware for initial communication between the two lovers is the cerebral cortex, it brings the phenomenon of shifting into a sharper focus. With the proposition that as retina (an offshoot of developing brain) has evolved in the biological system to receive and analyse (though to a limited extent) the photon energy and the organ of Corti for sound energy, so the cerebral cortex has been evolving to receive some 'subtler' energy, the 'Grace', the 'heart-throb' of Mother Nature, the apical dendrites of upper layers of cortical neurons do possess or develop receptors for it, there observed an upside down phenomenon, the inversion of whole neuraxis, where the central nervous system



Integration Centers of Human Neuraxis
FIG. 8.1

appears as an inverted tree with its root in the eternity and the branches below down the peripheral nerves. Then it is not a shift of the paradigm, or of its focus, but it is a new paradigm, the paradigm of Consciousness-Mother Nature, where consciousness is the only constant and all other brain-made or brain-felt constants are a flux in nature. The brainstem consciousness (alertness, wakefulness, orientation), the limbic consciousness (motivation guided consciousness to seek pleasure and avoid the unpleasant) and cortical consciousness (self-consciousness, creativity, imagination etc.) open up into an unlimited 'space' above the head as supracortical consciousness (SCC).

The Biological Hardware for the Development of New Paradigm

The essential biological hardwares in the human brain which generally come forward for the development of this paradigm are the cerebral cortex and the reticular system. To make the whole journey comfortable, the strategically located septal nuclei and two amygdalae of temporal lobes which constitute (Fig.8.1) the neurological pleasure triangle (NPT) are taken into confidence.

The Cerebral Cortex :

The supracortical consciousness captures the cerebral cortex layer by layer. In State of Grace, when a structurally polylithic brain becomes functionally monolithic, information received by upstairs neurons of cortex are processed by modular operons of the downstairs and the results are illumination, intuition and revelation.

The N.P.T :

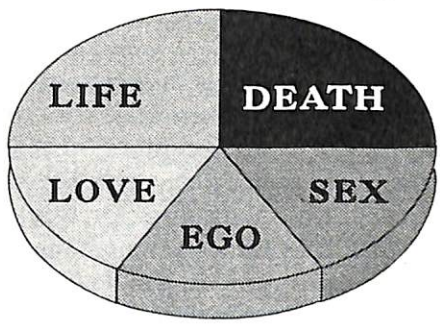
The supracortical consciousness, when biologized at the level of limbic nuclei produces that inexpressible ecstatic feelings, the Ananda. It is Ananda which creates new space new time.

The Reticular System :

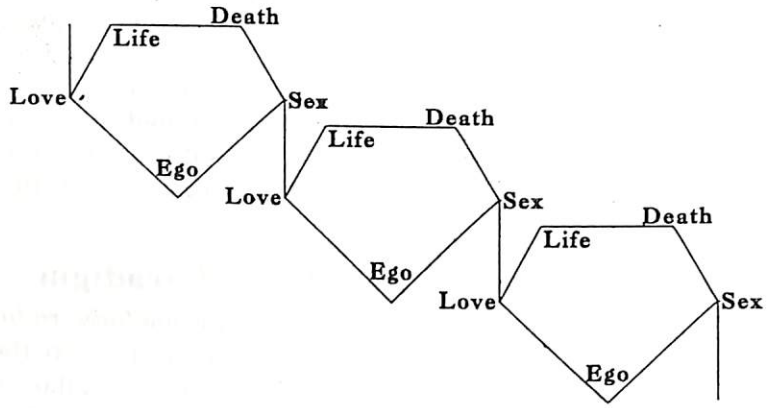
The process is initiated through self-consciousness. During the process, self-consciousness itself evolves from basic sixth layer of cerebral cortex to most undifferentiated, the first cortical layer. Not only does it look and open 'up' but also it does take utmost care, through NPT, of the whole reticular matrix of the spinal cord and the brain and, in the process helps development of five integration centres in segmental neuraxis. Four of them are in spinal cord and one is in the brainstem. The sixth one is in the hypothalamus and the seventh one is the biological integration centre(BIC). These seven integration centres (Fig.8.1) are described as 'chakra' in Tantra literature.

The Biological Integration Centre :

The highest, the biological integration centre, integrates five elementary phenomena of biology, namely Love, Sex, Ego, Life and Death. Not only these phenomena were there since the origin of the universe, since the inception of the biology, but also they are responsible for the course, the destiny, the health and disease of the creations. In a pie diagram, they may be represented as in Fig.8.2. In an unicellular organism, the cell membrane represents Love, the



Psychic Nature
FIG. 8.2



Psychic Skeleton
FIG. 8.3

DNA-replication apparatus Sex, the DNA-transcription and protein synthesis apparatus, Life, the lysozome, Ego and mitochondria represent Death. The psychology of an unicellular organism is regulated through this pentagon. The pentagons of millions of individual cells in a multisystem being are interlinked to form the psychic skeleton (Fig. 8.3) of the body. This psychic skeleton is eventually enfeoffed to the biological integration centre in the brain. The biological integration centre is the supreme biological homeostatic centre and all other neurochemical homeostats are subservient to it. The possible location of the centre is in and around the paracentral lobules involving both cerebral hemispheres (Fig. 8.1).

The biological integration centre makes life comfortable in presence of love, looks at 'sex' in a totally new, innovative way, actively transcends and integrates death and determines the role of ego in context of the other four.

The proper establishment of the BIC is an essential prerequisite to cross the transformational threshold, the humanity has faced while travelling along the Great Chain of Being. To gain access to 'free source' and extract 'pollution free' energy from past-vacuum 'space', ('spaceless Vast' of Sri Aurobindo), biological integration is an essential prerequisite. If a human being is visualised, before the development of BIC, as brainstem being, limbic being and cortical being, after one achieves the biological integration, on the other side of the threshold crossing, the next three milestones are supracortical being, supracortical godhead (Purushottama) and supracortical autonomy (Sadguru).

Research Frontiers

It is noticed at the very outset, that the paradigm opens up a much awaited research frontier which needs the combined effort of a philosopher, a biologist and a physicist. What is this 'Grace'? What are those receptors for it in the cerebral cortex? Are they protein molecule on the tip of the apical dendrites, synthesized by the perikaryon genes and transported along the dendrites to the terminal outpost? Or, is it the 'sensing membrane' made of dendritic mat in upstair cortex? How is this Grace phenomenon being translated into dendritic dipoles of upstair cortex and action potentials in the downstair cortex? The exploration of the mechanics of communication between upstair and downstair, in this context, deserves further emphasis. Is it the 'gate' phenomenon? Does this communication vary according to the variable states of information

processing and responsivity in the brain? We have explored some of these questions in chapter one and chapter thirty six.

Cautioning Note

I would like to point out a caution here. Just as electrical wiring in a household or in a factory can delight a number of people, though it may not necessarily have any direct relevance to enlightenment on consciousness, in the same way the watching or measuring of the response potential in electrical conduits of the nervous system adds nothing to real research on consciousness. However, as electricity, if efficiently wired, does offer comfort and enable people to continue the pursuit of consciousness in a pleasurable environment, so the various nuclei of the brain and their neural circuits, when taken into confidence, make the love play of consciousness within and consciousness outside the brain an enjoyable one. Though to take the nuclei of the brain and their circuits in confidence is a formidable task for self-consciousness, however the active, total and unconditional surrender to SCC is the only way I know of to involve them in the process of transformation.

Towards the Subtle

The above task becomes easier with the induction field of supracortical autonomy, *Sadguru*, the human device for the manifestation of Transformative Essence (TE). He is personified 'eternal yea' and the melting love. The 'aura' around him is full of 'subtle energy' field, which unifies, bridges, integrates, devours (cf: ' I am this world and I eat this. Who knows this, knows.'- Upanishads) or engulfs different paradigms upheld by different brains around it. The abundant research material could be picked up from this 'subtle energy' by the scientists working on consciousness paradigm .

Mother Nature

The subtle energy in its subtlest form, let the domain be what it may, physical, biological, psychological or spiritual, is the Mother Nature. She is the Mother of all observable nature. At the subtlest level, She is the executive front of Consciousness. To know the mode of functioning of consciousness, to understand how consciousness could be causal, one has to know Mother Nature. Mother Nature is responsible for the 'Grace phenomenon'. When the biological hardware of human brain is elevated to the State of Grace, the synchronization of the 'physical', 'biological', 'psychological' and 'spiritual' occurs. In that moment, there is no level. Standing on a confident biological hardware, the purest form of the human psyche cognizes across the post-vacuum physics to have an experience of 'Akhandification', the culmination of all philosophies.

Mother Nature is the mightiest. She is embodiment of harmony and beauty. She possesses a versatile perfection. In Her freedom, implicit is an order, the secret of Her majesty. Keeping this in view if one searches through the fields of vacuum physics, one gets stuck with the *photon*, the mightiest; the *conformon*, the cause of the implicit order; the *neutrino*, the root of perfection and the *phonon*, the cause of coherence and the beauty. All four of them have a facet in consciousness dimension and another in matter-energy dimension. They strip off their 'ego' to have a physical touch of consciousness in 'cosmic integration centre' (C.I.C). Individually, they

may be called 'nascent nature', the new-born baby of Mother Nature. Collectively, in an integrated Whole, during cosmic integration with consciousness, they are the aspects of Mother Nature. We have also called them antematter (see page 118).

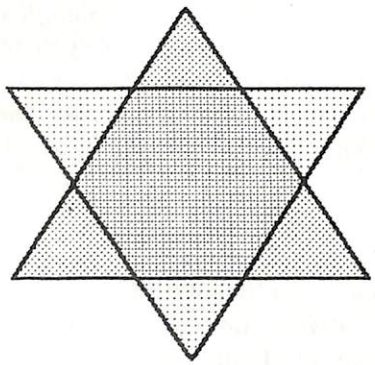
The Subtle Energy

Matter-Energy Dimension	Consciousness Dimension	Philosophical Synonym
Conformon	Conf - E - C	Silence, Primal Order
Photon	Phot - E - C	Emptiness, Primal Light
Phonon	Phon - E - C	Stillness, Primal Sound
Neutrino	Neut - E - C	Nothingness, Primal Force

Though initially I came in touch with those four wavepackages of energy in a totally different context, with passage of time, I am convinced that unless the role of these wavepackages of energy in neuronal organization of the brain is clear, the attempts to search, re-search for the origin of consciousness in human brain would be too far to be glimpsed.

Love Play in the Cortex

Let us now go back from where we started, the love play of consciousness within and consciousness outside the brain. For the research scientists of this paradigm, love could be initially defined as cortical manifestation of supracortical consciousness. Whatever love and sacrifice one observes in day to day practice is because of successful expedition of SCC through numerous obscurities of the infrastructure of the nervous system. Love also has a genetic basis. One cannot love music or a flower unless one has genes for it. An affair of love is an initiation of the genes to bloom. Love turns on the genes. In a prolonged love affair, there is genetic reassortment. The biochemistry of love is intimately linked with molecular biology of gene expression.



Superimposition of Top-Down and Bottom-Up approaches
FIG. 8.4

About the New Paradigm

The paradigm just stated, has multiple domains e.g. physical, biological, psychological, spiritual. The epistemology for each domain is different. Special attention is needed for the areas which apparently look as ontological discontinuity. One should be cautious that one does not fall in the trap of reductionist (the answers in lower level are extrapolated as answers for higher level) or of expansionist (the question for lower level is elevated as question in higher level) or amorphous holism (where everything is everything).

This paradigm is simultaneously (Fig. 8.4) a top-down (consciousness-Mother Nature at the top) and a bottom-up (self organization in a thermodynamically open system) paradigm.

One of the successful approaches for exploration in this paradigm is to look through the laws of higher nature to understand the lower nature. Could the answers of higher level resolve some of the persistent conflicts in lower level? The revival of radical empiricism (originally advocated by William James and recently re-emphasized by Prof. Willis Harman), could also add in this exploration endeavor.

For an individual, the levels dissolve for a 'moment' at the peak height of Consciousness-Mother Nature. *When one's nature becomes Mother Nature, one is Consciousness.* Individually it is also possible to prolong this 'moment'. By 'Grace', if it continues to a threshold level of 'time' essential for creation and the other conditions conducive for creation are fulfilled, then a new creation is in the offing. Surprisingly, the new creation is also seen to maintain a stratified order during 'becoming' and a hierarchy of 'beings.' If multiple individuals pass through the above mentioned phases and happen to create multiple new orders, there will still remain purity, perfection, harmony and bliss.

This is the most wonderful aspect of this paradigm.

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Chapter 9

The Essence and Its Paradigm

"A time will come when our descendants will be amazed that we had no knowledge of such obvious things."

- Lucius Annaeus Seneca

From a mechanistic point of view, it is Interuniversal Essence (IE). The transcendentalist labels it as Transuniversal Essence. A transformed person understands it as Transformative Essence (TE). For the common mortal, it is the Essence of the Multiversity.

The TE is in a plane in which the universe breathes. It is the plane of gasping for a dying universe. It is this plane in which our universe and others have been ceaselessly expanding and carving Space and Time from 'no space, no time'. This TE is also the core of the 'Living State'. The same is experienced as Ananda in human consciousness. Holding this TE as an irreducible constant, the paradigm born is called the Akhanda Paradigm.

The Universe, The Multiverse and The Essence

The word Universe is singular. No plural has been thought because of the assumption that there is only one Universe. The assumption has been thought incorrect, particularly by mystics and scientist-philosophers. The most appropriate plural for universe has been chosen here, as multiverse. Several universe(s), the multiverse, at the highest plane forms a system, called *the Multiversity.* (As the word designates the largest ever possible physical, philosophical system, henceforth we will use capital 'M' and 'the' before it).

The Multiverse is born out of Interuniversal Essence / Transuniversal Essence / Transformative Essence / the Essence of the Multiversity. This Essence is Consciousnes-Mother Nature who imparts an absolute transparency in the system, makes it an ever-open process and generates infinite pluralism.

Literally, the word 'universe' means 'uni', 'verse'; one rhyme, one tune, one note, one song. The entire universe represents one rhyme, one tune, one note, one song. The rhyme(s) of several universe(s), the multiverse, are originated from One and only One, out of intrinsic play of Consciousness-Mother Nature. This is the 'Nad' of the Vedas, the 'Kun' of the Quran, the 'Logos' of the Bible, the 'Sabddhun' of the Granth Sahib, the Celestial sound of modern philosophers, the Language of God, the Mahamantra, the Nadabrahama, Om.....Om.....Om.....

Different Facets of the T.E.

The Essence of the Multiversity has multiple facets. It is, beyond everything, beyond ..... beyond ..... beyond ..... beyond, - the *Transcendental*. It is also the ground of everything. It is everywhere, every time, in everything - the *Immanent*. The transcendentalist cares for the former, the pantheist for the latter. The perennial philosopher takes note of both. The cardinal aspect of the TE is, however, its *transformational* capability. The process of transformation is associated with inversion, reassortment and creative emergence. Creative emergence is, however, not synonymous for new creation. The most innovative facet of the Essence is its *capability for new creations**, its declaration on the Descent of God in humanity. Four facets remain integrated in a central core, *the Self, the consciousness* in absolute term. Personification of all five is possible in human form and such a person could be called an Akhanda.

The Frontiers of Research

The infinite ocean of Bliss, the fathomless hush, the impenetrable mystery are philosophical descripts of this Essence and the plane. This TE appears remote from the senses because of seven planes enshielding it (it has been expressed in three different ways in three different places of the work: in fig.1.3, in the following table, and in fig. 27.2). These shields or 'insulators' could be objectively perceived, verified, analysed and finally penetrated through.

States of Matter	
1. Solid	5. Plasma (Highly ionized but electrically neutral)
2. Liquid	6. Superfluid (zero viscosity)
3. Gas	7. Superconductor (diamagnetic, zero electrical resistance)
4. Ionic	8. Living State (Thermodynamically open. Possession of mind. Self-organization)

While most of the material scientists of twentieth century have been exploring the plane of superfluid state and the plane of superconductor, the Living State (the plane of Mother Nature-Consciousness) has not been adequately explored. Though the orthodox paradigms of science have covered the entire spectrum from quarks to quasars, those have unfortunately missed the Essence of the Multiversity.

This shoreless ocean of TE is found to have its own movement, flow, stream, everywhere inside and outside the Universe, in the animate, in the inanimate and in human beings,

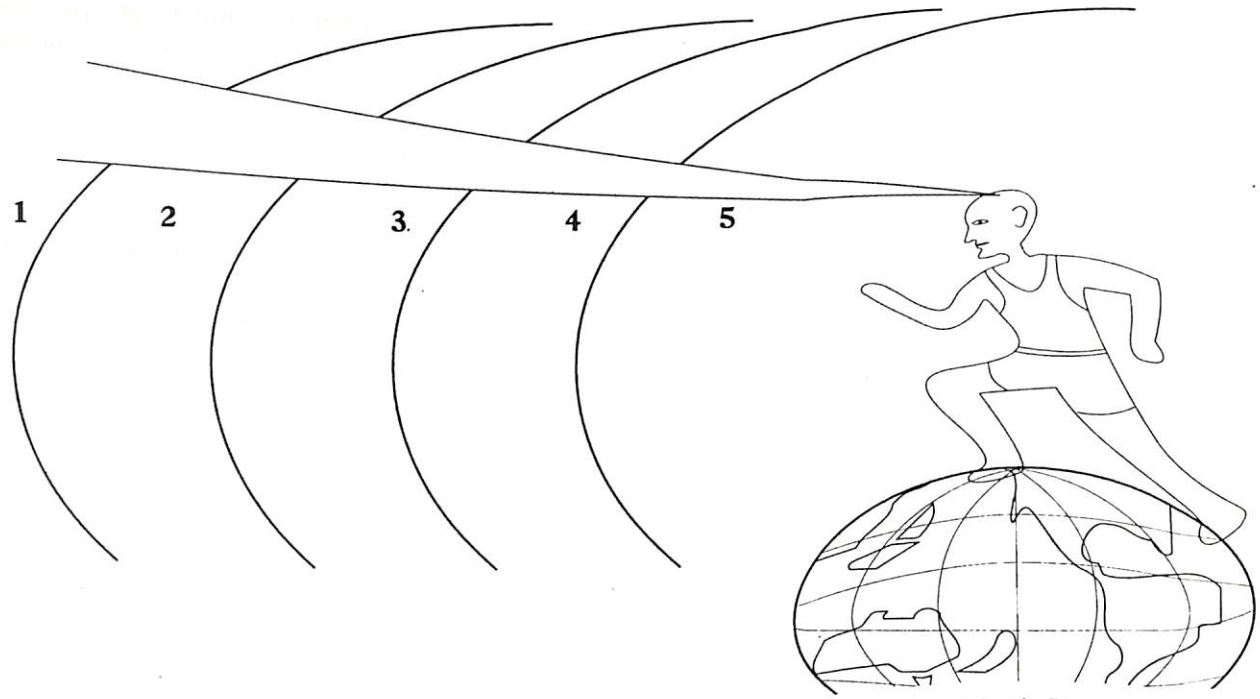
* The purpose of this new creation is to transform one's nature into Mother Nature.

maintaining everywhere its impenetrability and presenting Mother Nature as its executive front. From a mechanistic point of view, to find out how does this plane 'burrow', 'track', 'carve in', 'scale into' inside and outside this Universe, the galaxy, the stars, the planets and then the human consciousness, is the task and responsibility of the twenty first century's scientists.

The Human Being and the Essence of the Multiversity

The Orientation :

Let us first orient ourselves to the Essence of the Multiversity. We are on the earth (fig. 9.1), a planet in our solar system. 10^{11} such stars make a galaxy and 10^{11} such galaxies make the universe. Our universe and several others are born out of, and will eventually merge with the Essence of the Multiversity. From human consciousness to the Essence of the Multiversity, the landmarks are the star, the galaxy and the horizon of the Universe (fig. 18.1). The path of least resistance is through interplanetary space, interstellar nebulae, intergalactic 'ocean' ('hyperspace') and then the fathomless hush, the Essence.



1. The E. M. 2. The Edge of the Universe 3. The Galactic Plane
4. The Solar Plane 5. The Planetary Plane

The Essence and the Human being
FIG. 9.1

Why the Essence appears remote from human consciousness?

TE appears remote from human consciousness for two reasons: the first because of the fact that seven planes enshield it from outside, and the second, the limited perception ability of the human brain. The peripheral senses cannot perceive it till the breathing plane of the being is elevated considerably.

In other words, the breathing plane of an ordinary cortical being is remote from the breathing plane of the universe and is shielded from it by the 'universe' of nature. With every bit of transformation of nature towards Mother Nature, the breathing planes of two get closer, the human brain gains ability to perceive it more clearly. To perceive the Essence of the Multiversity fully, the human brain needs to be elevated to the State of Grace where the mind acts as a conveyer of consciousness.

What is this 'State of Grace' of the brain?

This State of Grace is a kind of framing of the brain when during its information processing and responsivity, (i) the hemispherical bias is nil, (ii) the stair-asynchrony is absent and (iii) the cosmocortical synchronization is absolute. The consciousness outside the brain and the consciousness inside the brain are identical. In other words, at this point, the human consciousness is identical with the Essence of the Multiversity.

How is this state achieved?

We aspire to experience TE through a brain which has undergone so much moulding from the newborn state to present situation. The education and interaction with three dimensional world have moulded our brain so much that to have the original experience once again, we need to delearn those which are stumbling block in supracortical direction. It is a long journey to take the brain which is used to perceive only three dimensions, to a state where it is capable of perceiving n-dimension and capable of expressing it effectively in any dimension or dimensionless plane, as required. There are three distinct phases with phase transitions in between. The phase of ascent; a phase of vacuum, the conscious death; and the phase of descent, the rebirth. The landmarks of the journey have been described in the author's previous work, *The Dynamic Web of Supracortical Consciousness*, in chapter six, "Towards Supracortical Transformation - The Traditional Way".

The Dynamics of the Brain during this Experience :

During this experience, the brain functions as a whole, as one. Structurally polylithic brain becomes functionally monolithic. There is a global broadcast. The remarkable feature is internal consistency; internal consistency of love, ego, sex, life and death; internal consistency of reasoning, feelings, instincts, values and Grace; internal consistency of functions of cerebral cortex, reticular system, and limbic pleasure triangle in contextual hierarchy and in goal hierarchy. Informativeness of the whole process places a demand for transformation of the subsystems. The process is accessible by self and is expressed in conflict-free perceptual code. In short, it is ecstatic, transformative and creative.

After several cycles of such experiences, the being does not remain a human being with experience of TE. He becomes TE personified - a 'spiritual' being for human experience.

The Great Chain of Being

Following this experience, one identifies the correct tract of evolution and transformation. One knows the Great Chain of Being.

The present humanity is at a transformational threshold. Already crossed three milestones are those of Brainstem being, Limbic being and Cortical being. The next three consecutive milestones are Supracortical being, Supracortical godhead and Supracortical autonomy. Following earlier three, there is a Great Void. Biological Integration is essential for further progress beyond this void.

Following establishment of biological integration, one becomes a supracortical being. The perennial philosophy is personified in supracortical godhead. The supracortical autonomy is the highest in human form. His nature becomes Mother Nature and He is Consciousness - the infallible, inscrutable, impenetrable, without any parallel or second or peer. Free will is prerogative of the being at the final milestone of the chain. When a supracortical autonomy becomes executive for a new creation, He could be called an *Akhanda*. Here, where all pathways of 'becoming' meet, all theories converge, a new becoming begins, and the *Akhanda Paradigm* is born.

In the Great Chain of Being, the higher comes through the lower, rests on the lower but does not come from the lower. It comes by involution of a still higher one. In higher, there is all of the lower but not vice versa. The Akhanda, in this sense is a perennial philosopher but a perennial philosopher may not always be an Akhanda (See next chapter also).

In this sense during *Akhandification*, one finds acquisition of commonalty of Heinz Pagels' 'Homospiritualis', Teilhard De Chardin's 'Christogenesis', Carl Roger's 'Fully Functioning Person' and Abraham Maslow's 'Full humaneness', who is most 'organismic', 'systemic', 'holistic'. The Akhanda, is not only self-actualised but also self-realized. He sees his 'self' in every bit of life.

The Characteristic of Akhanda :

The Akhanda is basically a Sadguru (supracortical autonomy) who has voluntarily chosen to be an executive for new creation.

During his majestic Silence, creative emergence of supracortical being from cortical being is a proof of personification of Transformative Essence in Him.

Through his activities, ordinary or extra-ordinary, Akhanda is a living demonstration of the subtle relationship of Consciousness, Mother Nature. Free will is his prerogative.

He is melting Love, unpolluted, undiluted, undifferentiated. He is the eternal Yea (Hari Om!) who only can offer absolute (limited by capacity of human brain) freedom to his followers. Only He can say and practice, 'Freedom is my first God'.

The Akhanda Paradigm is a paradigm which guides the process of such Akhandification of the present human race.

The Universe, the Human Being and the Humanity, the Multiverse

The organization means laying space and time in a special way for a specific purpose. In the human body, the unit is the cell. The spatiotemporal organization of the organelles form a

cell, organization of similar kind of cells form tissue, organization of different tissues for a common purpose form an 'organ' and organization of different organs form a system and then several systems make the whole human body. It is not less than a universe. In fact, it is a holoverse.

The human being is a potential personification of the universe.

I am the universe,
And universalities in all,
Crowned in this body,
Attending that call.

The different universe(s) suffer or enjoy their respective fate or destiny. The same is true for human beings. Like some human beings, some universe(s) are short-lived. Like many human beings, many universe(s) may be deterministic and enjoy Newtonian collapse. For a few, the big bang is to face a big crunch. Some may remain stationary and undergo disuse atrophy.

For the human beings whose consciousness inside the brain becomes identical with consciousness outside, those who remain truly open to the Essence of the Multiversity, there is no big crunch. They, like a thermodynamically open universe, are ever-expanding bidding death a good bye.

In such situation, the entire humanity appears as multiverse personified. Individual's heart throbs synchronously with TE. Every individual here represents an individual living universe in thoughts and deeds, in plan and non-plan, in chance and necessity. The creation, sustenance and demolition of the individual is comparable to creation, sustenance and demolition of the universe. The play, output and dynamism of an individual is equivalent to similar events in a universe. Clash, conflict and dialectics are conspicuous by their absence. The relationship is plural, temporal and of compounded complexity. The question whether the big bang would face a big crunch loses its relevance and significance. A dynamic 'strain' between the living human being and the living TE, across the universe orients everyone towards multiple, complex and temporal. Here, not only the piece represents the Whole in structure and in dynamicity, but the piece, actively determines the Whole.The singularity in the entire system is personification of One rhyme, One poetry, One song played through a 'string' connecting human consciousness and the Essence. The incompleteness is in its unending openness. There is a continuous process of biologization, an integrated dynamic nonequilibrium in an open system. Its beauty shines in the interrelationship of parts in reference to, and with an unending Whole. Its beauty manifests in the immanence of an unending Whole in every fragment and part. Its ananda is in its capability of transforming the old and creating new.

The Multiversity and the Akhanda Society

The Multiversity is the society of several universe(s). With ongoing process of biologization of TE, the entire humanity has been heading towards a new society which could be named as Akhanda society.

The Interrelationship of Science, Culture and Religion; A Brief Review :

During building up of a society, human culture plays its role to mould contemporary science and religious philosophy, and vice versa. One influences and is dependent on the other. The

evidence of their influence could be found ever since human being has started keeping a chronological record of their socio-cultural history. The religiophilosophical culture and the scientific adventure go hand in hand. The human culture in pre-Newtonian age, industrial revolution following Newtonian science, and the social 'fluctuations' in high technology era are all landmarks in such a relationship.

During pre-Newtonian science, there were only gods (small 'g'). Nothing transcendental, nothing immanent is believed or said about them. They were the 'heroes' with miraculous power. Following that the classical science offered a mechanistic automated universe and an outside supervisor, God. Since then transcendentalists have started dominating the religiophilosophical culture. God watches everything from outside. He is beyond what all are mundane. He is not involved in day to day activities. The immanent aspect is thus totally overlooked. Next comes the high technology society. The religious culture becomes pantheistic. For the people, the 'God is the world'. The other side of the paradox, - 'the world is illusory. God is only real', is ignored completely. The technological advancement has culminated in information revolution. The holographic theory, in information processing, appears supreme. Like in scientific disciplines, the religious cultures has been seen to consider the Whole. But mind that, the Holographic theory takes the energy as God and is silent about Consciousness. 'The holographic theory', says Ken Wilber, 'is at best a metaphor of pantheism.' The next phase in science begins with exploration of 'Living State', which points at self-organization, 'order out of chaos', the entropy, the irreversibility. In such a phase, the immanent as well as the transcendental aspects of God are discussed by most of the philosophers in different religious sects as well as in the forum of different disciplines of science. Prof. George Wald, who was awarded Nobel Prize for his work on biology of vision, considers, 'consciousness and cosmology to be the most intractable problems of present science. He feels (1979) that 'consciousness is not part of universe of space and time, of observable and measurable quantities, that is amenable to scientific investigation'. He also states that, 'all that we know, including all our science, it is in our consciousness. It is part not of superstructure, but the foundation'. What to be noted here is, in the earlier statement he is talking of the transcendental aspect of the Essence and in the latter hinting at the immanent aspect of the same.

To account for the whole of Living State, the science as well as religion take note of the process of evolution. Science looks it as a struggle for existence, natural selection and survival of the fittest. The religious philosopher envisage in it, the 'Lila' of God. To them it is a process of transfomation, an unfolding of the Divinity, a process of becoming of ordinary nature to Mother Nature.

With the Essence of the Multiversity gaining ground on this earth, humanity, which is at transformational threshold, which is heading towards a new emergence is found to move for a new socialism, *the Akhandism*. The transcendental, the immanent and the transformative aspects of the Absolute would be seen to dominate the religious literature. Creative emergence of multiple new qualities in human being on this earth are expectations of the scientist and the spritualist alike. A totally new creation on this earth has been advocated by twentieth century's spiritual giants from India (Akhandamandaleshwar Sri Sri Swami Swarupananda Paramahansa Dev; Sri Aurobindo; Swami Vivekananda). Pari pasu with that the scientific inquiries are directed as to how consciousness could be explored as causal reality.

	Scientific Culture		Religious Culture
1.	Pre-Newtonian era.	1.	Gods are heroes with miraculous power.
2.	Newtonian era.	2.	God is the supervisor, does not involve Himself in mundane. The transcendentalist dominates the picture.
3.	New Science	3.	Modernized religion
	a. Technological revolution.		a. World is the God. Pantheist dominates the picture.
	b. Information revolution.		b. God is holographic. Everything is everything. Amorphous holism.
	c. 'Living' State.		c. God is creative. God's expression is according to the conduciveness of the infrastructure. Perennial philosophy is consolidated.
4.	The Essence of the Multiversity is the unviolable constant for science. Role of consciousness as causal being acknowledged.	4.	Transformation of the present humanity and emergence of the Divine being. Descent of God in the humanity. God is transcendental, immanent, transformative and responsible for new creation.

The Reasons for delay in Self-Organization of such a Society :

Though humanity has been trying to cross the transformational threshold for about a century, the outcome has not been very satisfactory. Even when the transpersonal psychology is at the helm of its affair, the real transformation has not seen the light of the day on a significant scale. The human web through transpersonal psychological network involving highly evolved human beings, has been built up several times in the recent past with a view that the network would be capable of carrying the humanity across the transformational threshold. But the attempts have been failing. The reasons for this failure are as follows.

1. First and foremost reason is the assumption that the universe is singular and it is the ultimate constant. With the crunch of the univrse we also lose our existence. Ther is no consideration of the existence of a multiverse and the Essence of the Multiversity altogether.
2. Then, for mass transformation what we need is a *Transformer*, the TE personified, a Sadguru, the supracortical autonomy. What could not be achieved over the years can be done in days by mere presence of a Transformer. They are personified natural devices to expedite the process. The paucity of Sadgurus in this world is the second important reason for delay in building up of the Akhanda society.

3. Finally, no one, unfortunately in this context, has thought of a necessity of existence of the biological integration centre in the human brain. So, though several times attempts have been made to build up such a society, neither has the attempt's root penetrated through the eternity, nor have its branches ever touched the final motor neurons of the nervous system. It is this B.I.C. which can interact with, and biologize cosmic and supracosmic Forces.

Until the Interuniversal Essence is being expressed through final motor neurons of the nervous system, the network of mortal beings remains brittle. Until the supracortical manifestations are brought within the catchment area of the sensory system of a second nervous system there is no growth of this network. Until the TE becomes the communicating medium for 'heart to heart' talks with another being, the network does not expand. Until Mother Nature becomes the binding matrix, the pieces fall apart.

Behavioral Science :

In the Akhanda society, human relationship is unique. The constant in building up equation of human relationship is TE. All other man-made constants are evanescent, applicable only during transient phase-transition. If I am the personification of TE, I do not mind you growing around me as universe. If you also become a TE personified, I am happier. The struggle, the competetion, the jealousy, the dialectics are conspicuous by their absence. The ideal relationship of two or more holograms, two or more autonomous institutions are exemplified and personified here. Harmony of the whole system is maintained inspite of almost total functional autonomy of the individual units.

When Transformative Essence is our constant we can figure out several universe(s) in the human web. The society of several universe(s) is an Akhanda society. The society of the individuals elevated to the level of a living, dynamic, ever-expanding universe is an *Akhanda society.*

Is it Reductionism?

Is it reductionism to state that every human being is a holoverse (holographic universe) and humanity is a model of the Multiversity? The answer is 'No'. The practice of that reductionist's materialism in different disciplines have reduced man's true standing on this earth.

> "Descartes reduced man's wholeness to a divided mind and body, Darwin reduced man's mind to an ape's, Freud reduced man's mind to a conscious part that was less important than his subconscious and unconscious parts. Copernicus has reduced man's anthropocentric standing at the centre of the universe to the standing of a marginal creature on a marginal star, and 20th century cosmology has reduced that standing still further, by demonstrating that man's star is just of billions upon billions of stars in a thousand million galaxies."
>
> — Nicholas Hagger
> in, The Universe & The Light, Element, 1993, p. 114.

If atheists, agnostics or materialists do not admit anything which they cannot comprehend with senses, our duty is to present the spirit humbly to them in such a manner that they can sense it. Here is the necessity of lifting the torch from the higher level and to focus it at the lower to see how much the laws of higher levels are unfolded in lower level. It is not reductionism. The approach cannot and does not reduce the spirit. It only offers stairs to the materialists to climb with their senses and intellect to see the beyond.

The Essence of the Multiversity, in fact, reinstates the true stature of a human being. It also reinstates the complete anthropic principle. The human being possesses a brain which can experience *the Essence* standing on this planet earth. The acquisition of this experiencing organ has happened probably only in this planet. Human being is the only composite being who can biologize the working principles of a Multiverse.

How does the brain, which makes a genuine effort to translate this irreducible Essence into a scientific paradigm, extract 'subtle energy' from void and bring 'subtle chemicals' of the body to play with the genes in their fullest utilitarian manifestational scheme are some of the identified *research frontiers in the Akhanda Paradigm.*

The Cell, the Universe and the Human Being, the Multiverse

The cell is an organized unit of life. It consists of five principal cell organelles representing five basic phenomena of nature. Though limited, it has self-organizing capacity. So, at one phase of my making, I even visualised the cell* as a universe. The laws and the principles of the universe, I considersd, are enfolded in the structural and functional organization of a cell. I also thought, unless one knows the laws of the universe, the cellular basics are far from clear. Until the intricacies of intracellular and intercellular signalling are clear, the last seal of information transfer in the universe can not be broken. Each cell has a genetic replica of the whole body. The whole is in its every.part, in structure. The dynamicity is restricted only because of imposition of a specific milieu. However, I was stuck at a different point. The universe is born out of Interuniversal Essence. The cell produces its intercellular substance - a phenomenon of distinct *inversion.*

Intercellular substance of *biologists* is never comparable in any sense, with the Interuniversal Essence. What is comparable with the Essence is Consciousness-Antematter meridians of the tissue (see, *The Dynamic Web of Supracortical Consciousness,* page 159-160) and in this sense, every cell is a miniature universe and every human being is a Multiverse personified.

The Phenomenon of Inversion

The discussion above remains incomplete without further explanation of the phenomenon of inversion. In the present paradigm, the multiverse is considered inverted in the structure of a holoverse. The whole neuraxis of human being is considered an inverted tree with its roots in the eternity and branches below, in the peripheral nerves. The whole is inverted in parts in

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* 'One biological cell contains many millions of galaxies of atoms'- Andrew Glazewiski, A British Scientist Priest.

"I have been trying to think of the earth as a kind of organism, but it is no go. I cannot think of it this way. It is too big, too complex, with too many working parts lacking visible connection. If not like an organism, what is it like, what is it most like? Then, satisfactorily for the moment, it came to me: it is most like a single cell" - Lewis Thomas, in The Lives of a Cell ,1975, Bantam book.

structure and in dynamicity. Inside the brain, the neurological pleasure triangle is an inverted reality of cosmological pleasure triangle. In the same note the dynamicity and aspiration for the Whole in a human being is inverted in dynamicity and aspiration of his cell. One comes across this phenomenon of inversion during transformation, in the phase transition from Great Void towards the Whole. In the Void, the polar opposites annihilate, symmetry breaks. From across the Void, the inversion is executed by Mother Nature.

In the language of high energy physics the point of inversion is where conformon loses its 'ego' to become conf-E-C, (conformon equivalent of consciousness); photon loses its 'ego' to become phot-E-C (photon equivalent of consciousness); phonon loses its 'ego' to become phon-E-C (phonon equivalent of consciousness); neutrino loses its 'ego' and becomes neut-E-C (neutrino equivalent of consciousness). Following inversion, as conformon, photon, phonon and neutrino are considered to be phenomenal hands of Mother Nature, in the same way the biological integration centre in the brain is considered the point of inversion of human nature.

Through this point of inversion, the Akhanda Paradigm involves both quality and quantity, objectivity and subjectivity, quantifiable and unmeasurable, reductionism and analog law. Through this mechanism of inversion the objective matter of dialectics becomes a subjective feeling of paradox, the context dependency of information becomes value-influenced consciousness. Only by reversing this inversion, the 'emptiness' becomes infinity, the 'silence' becomes cause immortal, the 'stillness' becomes eternal and the 'nothingness' becomes Ananda.

Summary of some Essential Features of the Akhanda Paradigm

We will conclude this chapter by summarizing some of the essential features of the Akhanda Paradigm. In this paradigm, Consciousness is the only irreducible constant in all equations of relationship. Mother Nature remains as executive front of Consciousness. The paradigm visualizes the individual indivisible from the Whole and deals with the Transcendental, Immanent and Transformative aspects of the 'Self'. The central pivot in this paradigm remains human brain. It is a paradigm which grows because of the activities of the brains along the great chain of being. As pointed out earier, there is a dynamic strain between the Essence and the brain. When the two becomes one, there is new creation. Creative emergence, transformation of one's nature into Mother Nature and new creations are three objective parameters to assess the expansion and growth of this paradigm.

Need, Scope and Limitation of this Paradigm.

Need :

1. This paradigm offers a much desired forum where one can account for various domains and different planes of Science and Humanity in complete consonance with Spirit.
2. Its remarkable feature is a comfortable internal consistency which has not been found in any of the existing paradigms.
3. It fulfills the much expected combination of 'subjective' and 'objective'. In the language of Michael Talbot, people may label it as 'omnijective'.

4. Letting an opening at the highest possible level, it initiates everyone and every thing towards an order. In this way it takes care of apparently intractable fluctuations, disorders, chaos, found locally at different levels and various domains.
5. It unequivocally inspires the human race towards a new formation.

Scope :

1. At the highest level, this paradigim accepts openness and pluralim. So, it can
   a. accomodate and integrate almost all and rejects none.
   b. honour the individual units and parts in absolute terms.
2. It invokes Mother Nature as the 'binding' matrix for ideal relationship and brings absolute transparency in the system. The paradigm reinstates everything and everybody in its appropriate spatiotemporal location synchronizing their purpose with the purpose of the Whole. It remains comfortable with polar opposites and other paradoxes.
3. In the answers of numerous questions this paradigm raises, is hidden the bridge-building cement for various disciplines of Philosophy, Science and Humanity.

In this paradigm, I am looking forward to a grand union of all kinds of philosophers of 'mind'; behaviorists, functionalists, mentalists and of those who believe in 'emergent' hypothesis. The phenomenon of experiencing TE by human brain, offers new scopes for 'syllabus-free' thinkers. It extends the vision of lateral thinkers. The holistic thinker can create multiple field-independent new theories holding TE as the only constant. The divergent thinkers may find convergence of ideas in it. The person surrendered to TE does not think. Thoughts occur in him. He creates new mechanics.

Limitation :

In this 'ahead-of-time paradigm', one limiting factor appears to be the Time, and we have quoted Victor Hugo saying, 'Nothing is more powerful than an idea whose Time has come.'

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Chapter 10

Integration Wholeness Perennial Philosophy and Akhandification

Integration

Integration is the beginning of the round. Unlike consciousness and autonomy, this integration is not transferable. The integration under discussion is a cortico-supracortical integration and unique in four senses.

1. Integration in classical physics means adding up the infinitesimal changes. The change is in one parameter and in quantity only. Biological integration involves both quality and quantity. It is not only 'adding up', but also 'multiplying', 'compounding'. It is not just integration of one parameter. It is integration of multiple parameters, multiple qualities.
2. In this integration, no one element is out of proportion to others. Not only there exists a sense of proportion but there is also a sense of priority. Each element can take the lead if betterment of the whole demands it. Each yields to other when the whole requires it. Each element is judged in reference to the whole. Just summing up of the parts does not make the whole. The whole is better and greater than the summation of the parts.
3. Here, integration demands orientation of 'self' in relation to time, space and the purpose or cause. In this phenomena-riddled universe, the causes are at different levels and at various domains. There are smaller cause and bigger cause, lower cause and higher cause. According to the hierarchy of purposes / causes, there is hierarchy in the level of integration. The 'self' chooses signal out of noise when the integration centre is elevated from lower, smaller, superficial or subtle dimension of space time to higher, wider, deeper or subtler dimension of space time for a higher, wider, deeper and subtler purpose.

4. This integration is an integration in a thermodynamically open system. The IC (integration circuit) in even latest generation of electronic instruments are thermodynamically closed. Integration in 'living state' is open, complex and intriguing. There is perfect blend of conservation, liberalization and globalization. This integration involves all three levels of ascension, transcension and transformation. The outcome of such an integration is new synthesis.

The Wholeness

Following establishment of a biological integration centre, as a natural consequence of encroachment over higher, deeper subtler and wider dimensions, not only spatially but also temporally, the 'self' finally comes across the cause Immortality, the reason for thermodynamic openness, i.e. Mother Nature.

Cosmologically, to know the Whole one has to jump out of the universe. To have a glimpse of the Whole in particle physics, one needs tunnellizing of quantum vacuum. In neuroscience, only the biological integration centre (B.I.C.) can have a successful encounter with cosmic integration centre (C.I.C.)

To know the 'Cause', one has to pass through it and finally has to come out of it. In the process, one's nature would become Mother Nature and the 'self' is 'consciousness'. The 'self' by this process achieves an 'undifferentiated' state where there is no creation, created or creator. There is neither observer, nor the process of observation, nor the observed. There is no knower, nor knowable, nor knowledge. The 'self' is identical with the undifferentiated Essence. It is absolutely supracortical.

Caution

The wholeness described here is not a physicist's 'whole' or the 'whole' as propounded in holographic theory. Physicist's wholeness involves major part of nature as spatial hierarchy of ascending wholes. It excludes Time and so, remains nontranscendental. It also excludes Mother Nature.

The Perennial Philosophy

As soon as differentiation begins, there is an observer, a process of observation and an object, the observed. The equanimity is disturbed. The 'self' encounters 'problem of inhomogeneity'. The crests and troughs of waves could be identified. From the absolute supracortical domain one comes back in the cerebral cortex, the modular operon of which declares, - 'the Transcendental Essence is hierarchically immanent'. Perennial philosophy is born.

The Akhandification

What follows is self-organization in an open system. Because of profound biological integration, a complete grasp on the Whole and an ongoing process of biologization of supracosmic consciousness the brain gains an access to a 'free source' of energy (Mother Nature) but also becomes capable of extracting energy from it. Autonomy is conferred to him because of absolute perfection of his brain. He becomes Sadguru, a personified Transformative Essence. The

Transcendental, the Immanent and the Transformative aspects of TE are manifested through him.

The Sadguru is a supracortical autonomy. The things are done for him. Very very rarely, he 'wishes' to be an executive for a new creation. He, an embodiment of Consciousness-Mother Nature, calls upon his whole infrastructure and starts manifesting through an intrinsic play of Purusha and Prakriti in him. This executive Sadguru is named an Akhanda.

An Akhanda is not only emotionally integrated but also as a mystic, understands the Whole. His intellect knows the hierarchy of causes and the causation of hierarchy. Also he understands the situations where the hierarchy collapses. Above all, he is an executive. New creation is his prerogative.

Differential Diagnosis

	Perennial Philosopher	Sadguru / Akhanda
1.	**Synonym.** Purushottama. Supracortical godhead.	**Synonym.** Sadguru. Supracortical autonomy.
2.	**Behavior.** a. He is personification of transcendental and immanent aspects of the Whole. b. He is basically a Philosopher. c. He does not think. Thoughts occur in him. d. He strictly maintains the hierarchy. If there is any hierarchy collapse it is towards Wholeness.	**Behavior.** a. He is personification of transcendental, immanent and transformative aspects of the Whole. b. Basically he is a Doer. c. He does not do. Deeds get done through him. d. He knows and goes according to hierarchy. He also knows the situations of hierarchy collapse on both sides.
3.	**Neurobiology .** a. The Descent of SCC is incomplete. b. The expression of cosmic conscious is mainly through intellectual apparatus.	**Neurobiology.** a. The Descent of SCC is complete, stable and upto lower motor neuron. b. The expression of cosmic consciousness is due to centrifugal radiation from NPT through all its four routes.
4.	**The Great Transit.** Not marked by creation of a similar being.	**The Great Transit.** During great transit, an Akhanda is capable of transferring 'consciousness' to another human being elevated to the State of Grace and creating a similar being
5.	**Creative Emergence.**	**New creation.**

An Akhanda works at the highest possible sensible level i.e. at the level where events are represented by frequency i.e. by space/unit time. His delivery is holographic where every bit represents the Whole in structure and in dynamicity.

There are also some works experienced by him which he levels as the play of Mother Nature (see, Executive Mother Nature, chapter 35).

Transformative Essence, universal consciousness and self-consciousness form the spectrum of higher Consciousness in an Akhanda. A perfect blend of individualism, universalism and consciousness is seen in him.

He knows the parts,
And knows the Whole.
He judges any part
In reference to the Whole.

His transcendental, immanent,
Transformative touch,
Is felt in the brain,
With a Force very much.

Reasoning, feelings,
Instinct and Grace,
Integrate as values,
To strengthen his base.

He is determined to move
Towards a biological new.
Universal, individual
Blended in the dew.

He rejects none, and
Accommodates all.
Reductionist, Vitalist,
Holistic, the tall!

Ceaseless Creation
Marks his step,
He manifests as sacrifice,
Breathes out help

His heart in the brain
And brain in the heart,
Unassuming assertive,
Perfect and smart.

Akhandification is a process which has a beginning but no end. It remains unending. Ceaseless new creation is its hallmark. During final transition of the mortal body of an Akhanda, he creates at least one of his kind and if circumstances permit he leaves behind many like him.

The Complete Round

Integration is essential for complete ascension. The Wholeness is, however, farther than transcension. Perennial philosophy is an outcome of transformation, which is yet to be com-

pleted. The completion of the process of transformation leads towards Akhandification. The hallmark of akhandification is ceaseless new creation.

As far as the human brain is concerned, the highest biological integration is cortical. In Wholeness, the person is supracortical but without any manifestation - an undifferentiated, unmanifested state. Perennial philosophers are supracortical who manifest through cortical activities. In them, there is Descent, limited to the cortex. Discrimination of hierarchy is still possible. An Akhanda is supracortical and his machinery extends from the cortical neuron to final common pathway, the lower motor neuron in the segmental neuraxis. In him, the supracosmic consciousness descends through cortex, subcortical nuclei, diencephalon, striatum, limbic nuclei and lower motor neurons. Then, discrimination of brightness (luminous flux/unit area) is not always possible. One finds instances of hierarchy collapse, dominated by luminous flux only.

Astrobiologically, an integrated person is a successful hyperspace jumper. The Wholeness is revealed outside the horizon of the universe. A perennial philosopher is back at the horizon of the universe and observes that the TE being immanent in this universe, maintaining a beautiful hierarchy. An Akhanda is back at this very planet earth. To him, anything and everything is a representation of Transformative Essence. Of course, he is oriented to space, time and the cause of this universe. And for everyone's information, his space time is a new sensation for other.

Chapter 11

The Hierarchy. Does It Exist?

Administration is impossible without a hierarchy. Most of the universal philosophers admit existence of a kind of hierarchy. They describe three (spirit, mind, body), five (spirit, soul, mind, life and matter) or sometimes even seven planes. The Transcendental Essence of this universe is said to be hierarchically immanent (perennial philosophy). The central concept of this hierarchy has been reiterated by Ken Wilber :

> "All the lower is in the higher but not all the higher is in the lower. A three dimensional cube contains two dimensional squares but not vice versa. And it is that 'not vice versa' that creates hierarchy."

He also says,

> "The higher comes through the lower, then rests on the lower but does not come from the lower."

Dr. Larry Dossey, in his work, *Beyond Illness*, (New Science Library, 1984, page 171-172) writes on the mutual error of hierarchy collapse. He writes,

> "The divisions of the world into the domains of matter, mind and spirit are ignored by both sides - traditionalists and holists alike - and the appropriate ways of knowing about each level are all but forgotten. The problem, although it is calamitous in its consequences, is nonetheless subtle - for the collapse is in different direction. The traditionalists forcing the hierarchy to collapse 'downwards', so that everything becomes material and the holists pushing it 'upwards' so that all become spirit and mind. The former mistake results in reductionism, the latter in some sort of therapeutic panpsychism wherein mind or spirit is expected to be the Big Medicine in the sky."

Hierarchy or Stratified Stability?

Ken Wilber calls it hierarchy. Fritjof Capra prefers the term stratified stability. Hierarchy refers to Beings, stratified stability to Becoming. Hierarchy is for consciousness; stratified

stability is for Nature. Hierarchy is patriarchal, stratified stability is matriarchal. Ken Wilber is very specific about chain of Being. So, he is very strict about hierarchy. Capra mentions about Becoming. That's why he finds similarity (not identity) of organizing principle in different domains (physics and mysticism, for example) and at different levels. So he is a propounder of 'system view'.

Most of those who deal with the process of Becoming are so engrossed with the principle of organization that the possibility of existence of the hierarchical levels often does not occur to them. They draw conclusions about higher dimension from the findings in lower dimensions. They are, so, labelled as reductionist. But mind that, they are dealing with 'Becoming'. Those who have been talking about the 'Beings', are naturally surprised by their approach. Because, the higher being cannot be explained by the principle of organization of the lower being. The higher being comes through the lower, rests on the lower but does not come from the lower. All of the lower is in the higher but not vice versa. It is this 'not vice versa' which makes hierarchy.

The Neurological basis of Hierarchy

The sense of hierarchy is a function of the brain. In a brainless individual, there is no hierarchy. The man-made hierarchy hardly matters to those who are experiencing 'out of the brain' sensation. The hierarchy is made by the brain and dissolved by the brain. For any materialism, even that may be Divine materialism, the hierarchical order is an administrative convenience. The experience of hierarchy depends on the station of 'self' in different levels of the brain.

The hierarchical discrimination, may it be of the Essence or of a pleasant or painful sensation of sound, sight, smell or touch, is a function of the cerebral cortex. So, a cortical being is always bothered about hierarchy.

For a subcortical animal there is no hierarchy. The collapse of hierarchy brings 'popularity'. A subcortical human being is popular amongst human animals. A cortical animal strictly maintains the hierarchy. During supracortical transformation, in the phase of Acclivity, in the frequency domain the brain appears like a hologram, interpreting a holographic universe. There is a complete collapse of hierarchy and the proposers become roundly unpopular to the traditionalists.

When the 'self' standing on BIC (Biological Integration Centre), experiences ascension there is hierarchical transcendentalism.

In the realm of Consciousness-Antematter play, a glimpse of the 'Cause' reveals hierarchy of causes and causation of hierarchy.

The Descent of supracosmic consciousness through hierarchically organized layers of cerebral cortex manifests as illumination, intuition and revelation. These are output of cortex, discriminating 'Interuniversal Essence' and presenting it in clothing of words. The Transcendental Essence is seen to be hierarchically immanent. With continued transformation when the SCC percolates in the neurons beneath the cerebral cortex, the discriminative capacity of the being vanishes again. It is then flux only and not luminosity of Light.

There is complete hierarchy collapse. The unlimited popularity is the outcome.

Everbusy cortex frozen,
Actively standstill.
Ananda, Ananda, Ananda only
Only Ananda, I feel.

Neural Substrate for Hierarchy

Station of 'self'	Status of Hierarchy	Philosophy
1. Subcortical	Nil	'Pop' (popular)
2. Cortical	Most prominent	Dialectic
3. Cortico-supracortical	Exists.	Hierarchical Transcendentalism
4. Supracortical	Dissolves	Wholeness
5. Supracorticocortical	Exists	Perennial Philosophy
6. Supracorticolimbic	Dissolves	'Ananda'

When SCC 'catches' hold of the final common pathway of motor neurons and the whole neuraxis is inverted, the result is a supracortical autonomy (Sadguru). Again, there is a new form of hierarchy.

Chapter 12

The Holographic Theory and The Akhanda Paradigm

Holography is a method of lensless, three dimensional photography. Any piece of the hologram reconstructs the entire image. Dennis Gabor was awarded a Nobel Prize for its discovery. Prof. David Bohm emphatically points out, "Hologram is a starting point for a new description of the reality". Profs. Karl Pribram and Bohm say that "Brain is a hologram, interpreting a holographic universe. It is not static. It is all holoflux".

The Strength of Holographic Theory

In holographic theory, the events are represented by frequency (space/unit time). Of the four aspects of Consciousness, transcendental, immanent, transformative and creative, the holographic representation could not be possible for the first, third and the last. Major portion of the immanent aspect of Consciousness could have a holographic representation. The total of immance cannot be presented holographically. That it could represent some portions of the immanent aspect of the Spirit in the best sensible way, is the root of its strength.

Limitations of Holographic Theory

The so-called holographic theory does not account for the Whole. The whole represented by holographic theory is not the Whole. The holographic theory does represent events by frequency, but it represents events only. The Whole cannot be represented by frequency because the Whole consists of not only events but also causation of events and the Cause of causation.

Even, all of the events cannot be represented by frequency. The Multiverse, the universe, the human being and the cell are not just events. The free will, the process of transformation, creative emergence and new creation are beyond the reach of holographic representation.

The holographic theory starts at a point of highest energy level where 'everything' is in implicate form. The process of unfolding makes the order explicit. It does not say anything beyond the highest level of energy. It remains silent about consciousness. It does not even imagine what happens if the 'thing' unfolds transcending the highest energy level (c.f. the Akhanda Paradigm sees a phenomenon of inversion here). It does not include Mother Nature and Time and so remains in the nontranscendental realms. It precisely describes the immanent universe, may be in spatial hierarchy of ascending wholes. That is why, Ken Wilber calls this theory, "at best a decent metaphor of pantheism". Pantheism takes care of only one half of the greatest paradox - that half which states, "Brahaman is the world". It completely ignores the other half, "Brahaman is Real. The world is illusory".

The greatest disadvantage of holographic theory, according to Wilber, is hierarchy collapse. "It makes all shadows equally illusory".

The so-called holographic theory is also limited by its directionality. The winding and unwinding take place in opposite directions. Two directions meet at the highest energy level. Where is the 'free will' and possibility of 'creative emergence' then? What happens to the pattern (I am referring to Prof. David Bohm's experiment with two concentric cylinders) of two coloured ink drops in the viscous fluid sandwiched between two concentric cylinders, if the cylinder keeps on moving beyond infinity without changing direction (clockwise or anti-clockwise). Will it not face a deadly chaos from which a return to the previous pattern is just impossible by just rewinding the cylinder in opposite direction? At this point of directional irreversibility, is it not essential to transcend death if one has to predict the emergence of a new order beyond chaos? The concept of death dies at the end of so-called holographic theory and gives birth to the 'Living State'.

Limitations of so-called Holographic Theory

1. It does not deal with the Whole.
2. It deals with energy domain only (the Immanent aspect of the Essence).
3. It has not taken care of even whole of nature. It excludes Mother Nature and so, cannot account for transformational events. 'Free will' and 'creative emergence' are also outside its domain.
4. It collapses hierarchy.
5. It is limited by directionality.
6. It is silent about consciousness.

The Akhanda Paradigm

The Akhanda paradigm, on the other hand, simultaneously takes care of transcendental and immanent, the Highest, the spatial and temporal hierarchy and the ground of all levels. So, it can accommodate pantheism, transcendentalism and perennial philosophy. Its cardinal feature is its transformation-capabilities. The paradigm grows out of brains elevated to the State of Grace and hence, the process of transformation remains in its very roots. The Akhanda Paradigm begins and ends in the Essence of the Multiversity. It maintains the hierarchy of nontranscendental, transcendental and transformational milestones. When the perennial

philosophy projects transcendental and immanent as the greatest paradox, what Akhanda Paradigm intends to do is, first, to explore the relation between the transcendental Consciousness and immanent Mother Nature and second, to find out the transforming role of Consciousness-Mother Nature in ordinary human life for creative emergence and new creation on this planet earth.

Limitations of Holographic Theory when applied to Brain

There are three limitations when the theory is applied to the brain. They are all interrelated and revolve around the paradox of fractionalism and holism. They are described below.

1. If the brain of, say 'A', is a hologram, that of 'B' is another, that of 'C', 'D' etc. are still others, then why do all holograms interpret the holographic universe in different ways? Even if this difference is an illusion to a holographist, how does one account for this illusion? At a cellular level, every neuron is a hologram. It processes information in a holographic way. Still the output information differs from neuron to neuron. Then, are there different holograms at different levels? A faint imagination of 'level' immediately collapses holographic theory. Still, the holographic theory is correct and the different levels do exist.
2. Our brain is a hologram, the universe is another. How are these two holograms related to each other? A faint imagination of 'two' dissolves holism. Still they are two. If the total brain function is represented by one wave/frequency and the message or information of the universe is represented by a second wave/frequency, how do these two frequencies synchronize? How a big hologram 'engulfs' a small hologram? How the holographic brains of 'A' and 'B' communicate with those of 'C' and 'D'? At the cellular level, where every neuron is a hologram, how are holographic information of one neuron transferred to another? How are billions of small hologram in the brain transformed into a single hologram of the whole brain?
3. Though to a physicst plurality and holography are mutually exclusive, both exist in the present paradigm. If a plant, an animal, a bacteria, virus or viriods or a prion, can act in a holographic way how could then all these holograms be equally correct? Or, some are truer than the others? Which one is nearest to the Truth? Is there a hierarchy then?

The perennial philosophy unequivocally expresses, 'the Transcendental Essence is hierarchically immanent'. On the other hand, hierarchy does not exist in the holographic theory. This paradox of presence and absence of hierarchy immediately points towards a new dimension.

The Akhanda Paradigm

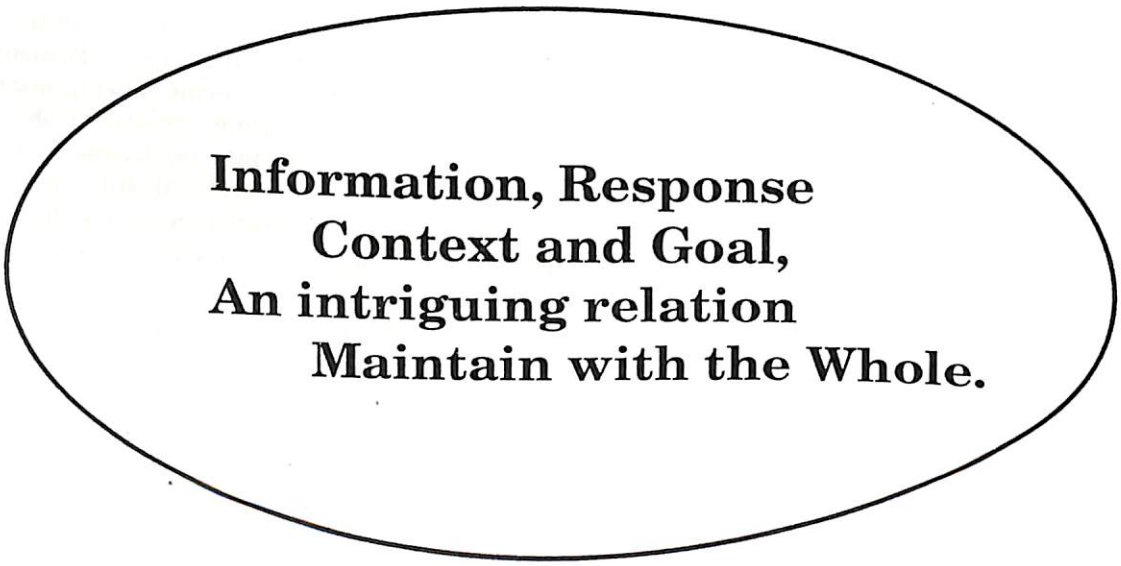
This new dimension is a part of a new paradigm, we have named Akhanda Paradigm. The holography is applicable as one of several processes in this paradigm while the paradigm itself accounts for the whole system, the Being, the process of becoming, creative emergence, inversion and new creation. In this paradigm there are pieces (*khanda*). Still it is one. Oneness and pieces, pluralism and monism, fractionalism and holism are co-existent in the Akhanda Paradigm.

Every piece here has a phase-specific consciousness. In every piece, immanent is the Whole. Hierarchy exists according to the capacity of its infrastructure to emanate the Transcendental Essence. Hierarchy exists because of differences in transformational phases of this infrastructure. In some phase transition during transformation, the Transcendental Essence could be equally immanent in every fraction, in every piece. The question of hierarchy does not exist during this point of time at all.

The problem of incoherence in relationship of different phase specific consciousness(es) is solved by the executive Mother Nature. (see also chapter 17, on Subtle Energy, and chapter 35, on Mother Nature). Mother Nature is responsible for 'engulfment' of a smaller or lower hologram by a bigger or higher hologram.

As long as Mother Nature exists, the paradox of fractionalism and holism gets cleared easily. The fractionalism, and so the hierarchy, exists because of the differences in the capacity of the infrastructure to emanate the Transcendental Essence. Though the Transformative Essence is identical, emanating capacity of the infrastructure has been varying according to their phase and phase transitions. Hierarchy is dissolved by a sweeping stroke of Mother Nature. All small holograms are engulfed in one immortal, eternal, infinite hologram. It is Mother Nature who through the transcendental core, dissolves the hierarchical difference between individuals. When one's nature becomes Mother Nature, one is Consciousness. By Her Presence, the differences in the capacity for emanating the Transcendental Essence melt into Consciousness.

In holography, events are represented by space/unit time. In the Akhanda Paradigm, the events are play of executive Mother Nature.


Information, Response
Context and Goal,
An intriguing relation
Maintain with the Whole.

PART - III

The Information Processing in, and The Responsivity of the Brain

The gamut of Information a neuron handles is enormous ! The amount of information to which the brain is exposed is phenomenal ! But the question is how many of these information are alive ? In the dawn of twenty first century, the neuroscientists are interested in living information — information which brings Life to the brain, information which is responsible for transition of the present cortical being towards supracortical autonomy.

Chapter 13

Information Responsivity and Consciousness

The Four Revolutions

The world has witnessed the agricultural revolution, the industrial revolution, the information revolution and at present is experiencing the consciousness revolution. The point of extreme significance is that consciousness has been identified by scientists as a fundamental priori for exploration of the biology of the human being. The developments in new physics, astrophysics, and in economics, the teaching of spiritual leaders, and finally the radical change of perceptions in their own life by the common masses who also include scientists, have all added momentum to this revolution. Consciousness has been realized as 'ineliminable explanatory causal construct' (Sperry, 1987) in behavioral science. Its legitimate causal or interactive role has been responsible for the shifting emphasis from 'microdeterminism' to 'macrodeterminism' and from 'evolution from below upwards' to 'downward causation and top down approach' (Sperry, 1987). When a tangible portion of humanity will cross the transformational threshold, it is this consciousness revolution which will shape other three revolutions further and lead to a synthesis of microdeterminism and macrodeterminism, 'below upwards' and 'above downwards' processes.

A few unwarranted Statements

The scientists who have not reached this threshold level and got stuck with one or the other of the three revolutions, when hear or observe so much success and future potential of the consciousness revolution, out of jealousy and frustration, misplaced ambition and pride they could make statements like, 'Information is Consciousness' or 'Responsivity is Consciousness' or even go to the extent, closing the eyes more firmly, that 'consciousness is not necessary at all in science'. These statements did not matter anyway for advancement of science had it not been

heard from some of the strongest proponents of the Holographic Theory or of the Living State. Both Holographic Theory and Living state, I believe, have a lot to offer in future of 'sciencing' the new perceptions.

That a conscious individual is a rich source of information is true. That a computer can process information without any involvement of consciousness is also true, but that 'Information is Consciousness' is a clear mix up and is entirely unacceptable. A doctor assesses consciousness of a patient by utilizing the stimulus-response relationship. To a physician, unresponsiveness of the patient clinically means unconsciousness. It may be a practical approach to the problem with a limited knowledge. But the statement that 'Responsivity is Consciousness' is only a facet of the partial truth and does not even hint at the Whole.

The Purpose of this Chapter

The purpose of this chapter is not to make an attempt to clean up those uncritical remarks. Nor is it to isolate those who are proponent of such irresponsible ideas. The purpose is to stimulate the scientists to begin a new search for the truth. The purpose of this chapter is to highlight the intriguing relationship of Information, Response, Context and Purpose (Goal) with the Whole.

The Constant

The scientists investigate nature, not consciousness. The nature they explore is mostly classical and occasionally transcendental. In effect, the laws and orders in the universe are found out. The attempt does not reveal the laws and orders which our universe and the others abide. To understand those one has to have a trip, at least once, outside the universe - in that 'no boundary zone' of Interuniversal Essence. In such a situation, holding the Essence of the Multiversity as constant, when scientific inquires penetrate through the transformational zone, the root of those apparently unsurmountable conclusions are torn and the reality is revealed. Then, information and responsivity are not synonyms for consciousness. They remain, however, the scientific yardsticks for measuring the degree of awareness in *nature*.

Information is not Synonym of Consciousness

The Information Theory :

In Information Theory, reduction of uncertainty in a given set of choices defined within a stable context, is said to be information. So, does then consciousness mean reduction of uncertainty? The answer is not straight 'yes' or 'no'.

In fact, in the Information Theory the scientists are not talking of consciousness. They are accounting for expansion and contraction of nature. Reduction of uncertainty, removal of 'hidden variables', generation of information and all those responses are functions of nature. When the hidden variables are removed, the probability is hundred percent and uncertainty is zero at the receiving end. There is no information then. This is described as redundancy effect. The situation is completely different in the 'living state'.

In the living state, which is thermodynamically open, where there exists a self-organizing capacity, and where there is an ability to transcend the paradoxes, the absence of uncertainty thunders with new information.

Some advanced views on Information :

Nobert Wiener has said, 'Information is information. It is neither matter nor energy.' Bill Gough goes one step ahead, 'Information, like energy, is ultimately indefinable.' Since energy is defined as the capacity to perform work and not the work itself, so the information could be defined, 'as the capacity to store and transmit meaning or knowledge - but it is not the meaning itself'.

Infact, information could be more powerful, more effective than a conventional energy field. During the epic war of Mahabharat, intentionally wrong information from horse's mouth (Yudhistir) about commander's son's (Aswathama) death, lead to total collapse of the commander-in-chief (Drounacharya) of the Kauravs. One piece of information from Iraq, through the CIA, could make President Bush sleepless for several consecutive nights. The whole political system or a kingdom survives on correct information. The Grace is that living information which unequivocally thunders that consciousness inside and consciousness outside the brain are identical and it initiates the process of transformation. The long range coherence in nonlinear physics, organization of chaotic processes e.g. in turbulent wind, cloud, crystals, are mediated not by an energy field but by information. Both Henry Stapp and Jack Sarfatti explain simultaneity of events in Bell's Theorem through transmission of information with superluminal speed. A living information is the 'Life-Force' of nature.

Information is structured through 'subtle energy'. Subtle energy in its subtlest from is Mother Nature. Mother Nature is the executive front of consciousness.

Information has an electromagnetic substrate (Photon). It also has a conformational aspect (Conformon). The thermodynamic openness of information (Neutrino) is essential for interaction in a living state. The neutrino contributes to the meaning of an information. For information to act on a macromolecular system it needs phonon (see chapters 17 and 36).

The Human Brain, Conscious Experience, Consciousness and Information :

The definition of information in Information Theory is quantitative and is within a framework of stable context. The consciousness in human brain is context-independent. The creations of context as well as of information are manifestations of the functional aspect of consciousness. Consciousness and conscious experiences are not synonymous.

In the human being, the conscious experience is informative. The conscious experience as well as information are context-dependent. The contexts are relatively stable. Generation of new information out of given data or signals, involves 'consciousness'. Information is a content of 'consciousness' and the conscious contents seem always objective. The conscious experience sets a demand for the whole nervous system to adapt with it. The contents of conscious experience in the brain may, however, be of numerous variety but still may not necessarily be of 'consciousness'. On the other hand, 'there is much evidence that nervous system is not sensitive to physical stimulus as such, but is instead highly sensitive to information. For example, absence of an expected stimulus can be highly informative' (Bernard J. Barrs).

Responsivity is not Synonym of Consciousness

To respond is not a quality of consciousness. It is the function of nature. The nature in ultimate, is hierarchically enfeoffed to Mother Nature, the kinetic facet of consciousness.

A unicellular organism immediately responds to any signal of the mildest change in the environmental salt concentration. On the other hand, a mystic may not respond to a major physical assault. He may be extremely responsive to an information which seems trivial and irrelevant to most of those around. Any living being usually responds to a stimulus if the stimulus is hierarchically and contextually appropriate for the level of its living state. There may be a response, or absence of response. The latter is called *silence*. The silence, could be true or apparent, passive or active, transient, short-lived or permanent, may be rich in meaningful information or could be the gateway for a new information. The silence could be due to inappropriate question / signal / stimulus; inappropriate in quality, quantity or in time. Finally, the silence is also a response and a labour-room of new information.

Not all silence is absence of causes
Not all stillness is engulfment of time.
Not all emptiness is subatomic void
Not all nothingness is absence of rhyme.

There is silence which broods Cause.
There is stillness which generates Time with pause.
There is Void from which the Universe is born.
Ananda shines when Nothingness is torn.

Meaning of Silence

I True Silence :

i. When there is no need to respond, or response is implict in the question.

ii. When question set is inappropriate in quality, in quantity or in time; inappropriate in context hierarchy, goal hierarchy.

II Apparent Silence :

i. There is a response, but the recipient is not sensitive enough to receive.

ii. When stimulus inflinches 'pain' on the responder. The threshold of silence is determined by the tolerance to this pain.

iii. When response is traumatic for the recipient. So, an active silence is maintained.

III Silence, which broods Cause.

Penetrating through the active silence of Mother Nature, the consciousness within and without the brain become one. In the way there are experiences of death phenomenon and development of biological integration. This sets the context, for the birth of several new information.

At present, the yardstick to detect and quantify a response is very crude. The quality of response is mostly ignored. The response in an objective set up is analysed by human brain or its product, an instrument. Before one is able to truly identify, qualify and quantify a response

or absence of a response, the sensitivity, the specificity, the accuracy and the precision of the human brain or of the concerned instrument need to be ensured objectively.

In the human brain, the conscious experiences do not notice or care for most of the responses its subsystems exhibit. Automatic reflex responses continue to happen below the threshold level of conscious experience. Even the highly skilled learned performances, many a time, do not reach this threshold level. *High level creativity is mostly unconscious*. The consciousness works in a huge system of unconscious responders in the brain. It is surprisingly true even in the smallest unit of life.

During meditation which is an adventure for consciousness, the response is usually minimum to start with. With the deeper and deeper meditation, the response is a demand for transformation. If the demand is fulfilled, one's nature undergoes a series of transformation. The uncertainty keeps on reducing. More and more information flows in. Again in this context, the most relevant information is a demand for surrender - a total, unconditional and conscious surrender. In the process, one's nature becomes Mother Nature and one is Consciousness then.

The Intriguing Relationship

From the discussion above, it is evident that Information, Response, Context and Goal are related intriguingly to the Whole with an extreme degree of stable internal consistency.

After an information is being received in the processor, it immediately seeks context. In what context is the information relevant? If a response is to be executed or silence is to be maintained, the processor whispers, 'Response! what is the purpose? What is the goal?' Only after achievement of an internal consistency of the four, a response is executed. According to the hierarchy of contexts and hierarchy of goals, the meaning of an information and so of a response, changes. The goal hierarchy is ultimately enfeoffed to consciousness. The context and the purpose are mostly subjective and are qualitative. To quantify them is very difficult. The information is objective and quantifiable. The response is not always so. The response may be another information, predictable, unpredictable or new. When a new information comes as response, one is sure of involvement of consciousness in this play.

Information, Response
Context and Goal,
An intriguing relation
Maintain with the Whole.

Receiving an Information
One may respond or not !
Vibration is felt
At the Goal-Context knot.

The response to an Information
May be silence or nil.
That doesn't mean,
The processor is killed.

An expected Information,
If fails to arrive,
An unpredictable response
The goal may drive.

Informations alone are
Big puzzle piece,
Meaningless and useless
If you, one, miss.

Its meaning varies
With Context and Goal.
Judge an Information
In relation to the Whole.

Reading an Information
Is a science and an art,
The context and the purpose
are brothers very smart.

Hierarchy of Context, and
Hierarchy of Goal,
Carefully hidden in the
Processor's soul.

In response to an Information,
If generated some new !
Wonderment and puzzle
Can't account for those few !

Consciousness is welcome
To extend His Grace,
Perplexed all four, then
Strengthen their base.

The frontier of research is not only to investigate the intriguing relationship of the four with the Whole but also their relation with four phenomenal hands of Consciousness - photon, phonon, conformon and neutrino.

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Chapter 14

The Human Brain An Organ for Information Processing and Responsivity

Options Open

During programming of human brain following options are kept open.

1. A living being is thermodynamically open. This thermodynamic openness of living state is maintained in the human being, as a whole, through its central neuraxis, the brain. The upper layers of the cerebral cortex are open to external cosmos.
2. Consciousness outside the brain and consciousness inside the brain are separated by and linked through self-consciousness. There is parallelism, interactionism and finally identity of within and without the brain. Infact, the whole purpose of the process of evolution of the brain is to establish identity of consciousness within and without.
3. Following that, the human brain becomes the sounding board of Mother Nature.

Landmarks of Asymmetry

The brain has been evolving to experience the Essence of the Multiversity. If one carefully looks into evolutionary neurobiology during millions of years of its evolutionary journey and watches the process of ontogeny in developmental neurobiology, one finds that three asymmetries have arisen in the information processing and responsivity of the brain.

1. Asymmetry born out of Lateralisation :

Some types of information are better handled by the left hemisphere and others by the right. Some feelings are better stored and expressed by the right hemisphere and others by left.

Some kind of subtle energies are best active on the left side and others on the right. Some kind of computational ability is better executed by the right and others by the left.

Areas of Specialization

	Left brain		Right brain
1.	Self-consciousness (I)	1.	Facial perception
2.	Language function	2.	Musical skill
3.	'Divisive' outlook	3.	'Interconnected' outlook
4.	Masculine expression	4.	Feminine expression
5.	Time-sense	5.	Visuo-spatial abilities

This is a fuller expression of *bilateral asymmetry* and points towards genesis of 'left' brain and 'right' brain around a central neuraxis ('Leftist', 'Rightist', 'Centrist').

2. Asymmetry born out of hierarchy problem :

Billions of information processing units, the neurons, constitute the nervous system. They are derived from neuroectoderm. Some, by virtue of their initial spatiotemporal identity in the cranial end of neural tube, take part in construction of brain and others join the segmental neuraxis. There are evidence for extensive migration of neurons from one place to another, punctuated by even cell death. There are bootstrapping, topobiological phenomena and the influence of neuronal cell adhesion molecules. In a mammalian nervous system, one finds a stratified stability of neuronal nature and an axial hierarchy of neuronal consciousness. As a consequence of this, is born an asymmetry - *the interlevel asymmetry.* All of the ability of information processing and responsivity of the lower is retained in the higher but not vice versa. Because the higher does not come from the lower, though it comes through the lower and rests on the lower.

When this phenomenon is ill-understood, questions like the followings arise.

Who is higher and who is lower? Who are the bureaucrats, who are the technocrats? Who will be secretaries and who are the ministers? Who will remain in segmental neuraxis, who will be offered preference for specialization? Who will occupy the posh area of cerebral cortex? Who is the Prime Minister and who is the President? Does the higher have ability to control, guide, inspire, elevate and transform the lower?

Ill-perceived hierarchical organization, an ill-conceived structural and functional hierarchy are the cause of class struggle. The class struggle culminates in stair-asynchrony of the cerebral cortex. The information processing in, and the responsivity of, the lower three cortical layers of neurons are different from those in upper three layers of cerebral cortex.

3. The cosmo-cortical Asymmetry :

The brain has been bestowed with a freedom to process information and to respond independent of the Essence of the Multiversity. Though some of the upstair cortical neurons are ever open to cosmos, they need not always to be synchronized with the Essence of the Multiversity.

Even the neurons which are open to the cosmos, feel that they have trekked through the whole neuraxis on their own capacity and have arrived at the top. Most of them have a strong base, linked with like-minded common neurons. They have corresponding bureaucrats and respective technocrats. None of them appears to be a marionette, dependent for their political well-being on the blessings of the High Command. In such a group, there are representations from all, leftist, rightist and centrist; or, communist, capitalist and conservatives. All get equal blessings of the cosmos. Openness to several scalar fields in the cosmos instead of openness to the Essence of the Multiversity has given rise to the final asymmetry in the brain, the *cause of 'the riddles of heavens'*, the politics.

The probable cause, outcomes in information processing and responsivity, and consequent developments of three asymmetries are tabulated below :-

Comparision of three Asymmetries

Asymmetry I	Asymmetry II	Asymmetry III
Probable Cause : A need for specialization in different directions, developing procedural skills in multiple areas.	A need for stratified stability of neuronal nature and axial hierarchy of neuronal consciousness.	Diffuse pouring on the cerebral cortex from cosmos. Inability to distinguish supracortical phenomena and supracortical consciousness.
Outcome in Information Processing and responsivity : Hemispherical bias. Complementary specialization of hemispheres. Paradoxical behavior of the hemispheres.	Conflict of Words and deeds, conservatism and radicalism, bureaucrats and frontier scientists.	Politics. The riddles of heavens. Multiplicity of philosophy. Plurality of religion, ethics. Confusion about basic morality, human values and ethics.
Consequent Development : Commissural system.	Extensive connections and synapses.	Polarization of both hemispheres towards centre. Admixture of ego, love, life and death with a very vital function, the Sex. The paramount importance of paracentral lobule.

Indeterminacy during Information Processing and Responsivity of the Brain

The purpose of evolution of the brain as an organ is to establish identity of consciousness within and consciousness outside it. During the pursuit for the absolute certainty, one faces three kinds of indeterminacy which are almost similar to types of indeterminacy pointed out by

physicists. The indeterminacy could also be related to three kinds of asymmetry just described.

Indeterminacy observed by Physicist	**Indeterminacy during information processing and responsivity of the brain.**	**Asymmetry**
Wave Particle dualism Uncertainty principle of Heisenberg.	Left brain right brain dualism.	Asymmetry I
Quantum indeterminacy across the scalar fields (David Bohm).	Indeterminacy during information processing along axial hierarchy.	Asymmetry II
Indeterminacy at the edge of the universe (Stephen Hawking).	Indeterminacy in cortico-supracortical synchronization.	Asymmetry III

Role of Self-consciousness in the Human Drama

The 'sense' of 'self' is a human characteristic. On a phylogenetic scale, it had started developing since the day of Australopithicenes, when they made tools out of pebbles to protect the 'self' from the 'beast'. During ontogeny, self-consciousness appears around the age of twelve to eighteen months when a baby learns to recognize its image in a mirror.

During the evolutionary run of a human animal, the 'self' has undergone tremendous changes, reform, metamorphosis and transformation. The self-sense has gained the capacity to keep the brain thermodynamically open or closed. With the appearance of such self-consciousness, the information processing and responsivity of the organ has taken a new turn.

It is the 'self', which has been analysing at present, its origin or root, planning for its future course and so, has been taking a stock of the situation. It finds itself distributed between two hemispheres.

> "The total self [is] partly known and partly knower, partly object and partly subject.....we may call one the Me and the other 'I'.....I shall, therefore, treat the self as known or the me and the ..... self as knower or the I."
>
> – William James, 1892.

The 'I' is in the left brain, the Me is in the right.

The self has a 'consciousness' facet and a facet of nature. The former is immobile and the later is dynamic. Both are eternally spoused.

The neural representative of the dynamic facet of the cortical 'self' extends in the central reticular core of the nervous system. It is probably what Aristotle called entelechy. Aristotle described entelechy to have teleological properties. It has been striving for perfect perfectness. In the human brain, the neural substrate for this could be central reticular, periaqueductal, periventricular grey zone nuclei.

The consciousness facet of the 'self' is component of Purusha. Sri Aurobindo's Purusha is the 'Inner immobile being'. The neurological substrate for this 'being' is scant except at the rostral and caudal end of the neuraxis. The 'inner immobile' and the 'deeper surging' beings, as mentioned, are eternally spoused.

The intrinsic relationship of the inner immobile being and the deeper surging being is disturbed had those indeterminacies, mentioned above, been allowed to grow further. On the other hand, the dynamic facet of self is purified by unbiased hemispherical information processing and responsivity. It is perfected by removal of asynchrony of cortical and supracortical vibrations. It is harmonized with the universe by total, unconditional, active surrender to Mother Nature.

The self-consciousness goes through a thorough stock-taking and finds that :-

1. the energy stored in the central reticular system is tremendous and this resource is not explored at all in an ordinary brain.
2. the cerebral cortex does possess a master plan for the 'human-cosmos' relationship.
3. if the self-consciousness itself remains open to Mother Nature, to the Essence of the Multiversity, the clue for a perfect organization could be realized.

With closed vision what were appearing as the causes of these asymmetries are really found to be the rich resource for a perfect harmonious solution. The Grace phenomenon in the cerebral cortex and its consequence, the 'phenomenon of inversion' in synaptic activity can lead the present cortical being towards a higher being, more complex, more organized, more close to Mother Nature with multiple new qualities.

The essence of Self's resolution is as follows :

1. The 'self' is comfortable to remain united with an inexhaustible source (inexhaustible within cortical limits).

   The steps are attention, concentration, meditation and samadhi. The 'self' becomes attentive to this inexhaustible source, concentrates on it, meditates on it and eventually becomes one with it. The processes themselves are appropriate for correction of problems arisen due to asymmetry (see next chapter).
2. The 'Self' finds it beneficial in the long run to integrate effectively as many variants as feasible (within biological limits); for example, the inner immobile being and the deeper surging being, the process of centralisation and decentralization, the openness and conservation, representation and categorization, expansion and consolidation, new formation and their precise placement.
3. 'Self' finds it important to censor the pathologies, like fundamentalism and terrorism.

'Self's Effort to bring Solution of the Problems

In describing the whole drama, it is better to consider, for convenience, the left brain as leftist, the right brain as rightist, and the central neuraxis as centrist (Fig 14.1), and then to explore the whole situation. The Self here, is very flexible as well as rigid. In a crisis, it is equidistant from all the three. Finally, it is open to the Essence of the Multiversity.

On the background of a valid fear of slowly getting absorbed in the centralist group, the demand for decentralization comes from both left brain and right brain. This is a necessity for their survival. This is also a need for their specialized growth which has been found to be complementary in almost all motivation guided situations.

The way the left brain wants decentralization has similarities to 'communism'*1 in social sciences. The prescription is decentralization under the crown of self-consciousness and to take guidance from the 'deeper surging being' in the central reticular formation.

The danger remains one, as rightly apprehended by the orthodox rightist, the instability of the centre and eventual abolition of the centrists. The major pathology is also one, the terrorism*2. If the left brain neurons disown the crown of self-consciousness, and develop an autonomy and continue to be attached to the deeper surging being, they launch frontal attack against the capitalist circuits. This explains upsurge of terrorism (see also following pages).

The way the right brain seeks decentralization is total peripheral autonomy. The spread of the rightist ideology through the right brain neurons takes place by a balanced guidance of the cosmic influence on one hand and the inner immobile being in the central reticular core on the other hand. The danger remains one, as vociferously sounded by the orthodox leftist. There is danger of what social scientists call eruption of 'regionalism'. The pathology is also one. If the right brain neurons develop a kind of self-consciousness (cosmic block) and still remain attached to the inner immobile being, one sees the emergence of communalism/fundamentalism*2 which poses a stumbling block in decentralization process.

But really, if one looks behind and traces the evolutionary tree from its top to the roots, one will find that the hostility between the leftist and rightist is a mere anachronism - an error in computing historical time. Inside the left brain, there is a right and inside the right, there is a left; meaning, the manifested characteristic of left brain is hidden in rudimentary form in the right and vice versa. The potential for openness to the external cosmos is also there in the left brain and the hidden self-consciousness of the right, can surface in course of time.

There exist the areas of affinity too, deeply rooted in the central reticular core. The left brain neurons, though they remain under crown of self-consciousness, are guided by the deeper surging being in the central reticular formation. And the right brain neurons, though they remain under cosmic influence have tremendous love for inner immobile being in the central neuraxis. The central two, the 'inner immobile being' and the 'deeper surging being' are eternally spoused (Fig. 14.1). The ray of hope is strengthened by a fallacy inherent in leftist's and rightist's desire and apprehension. The leftist advocates a total state-controlled economy. The encourage-

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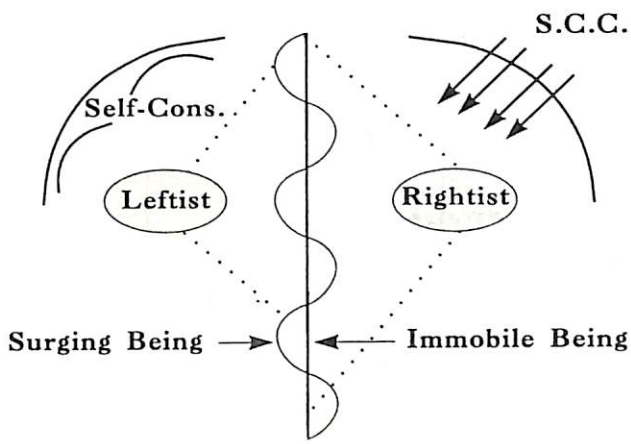
*1 International communism may be long dead. Forces may be ideologically in rift. But the communism is there in the mechanism of decentralisation as prescribed by left hemispheres.

*2. The cure for terrorism is in establishment of physiological communism and the cure for fundmantalism is in establishment of physiological autonomy.

ment of the rightist for free enterprises is never even imagined to be delinked with the national (central) glory.

Now have a look at the hard core centrist group. They do not like the proposal of decentralization. In fact, there is intransigent opposition for three reasons:-



Leftist Rightist Centrist in the brain
FIG. 14.1

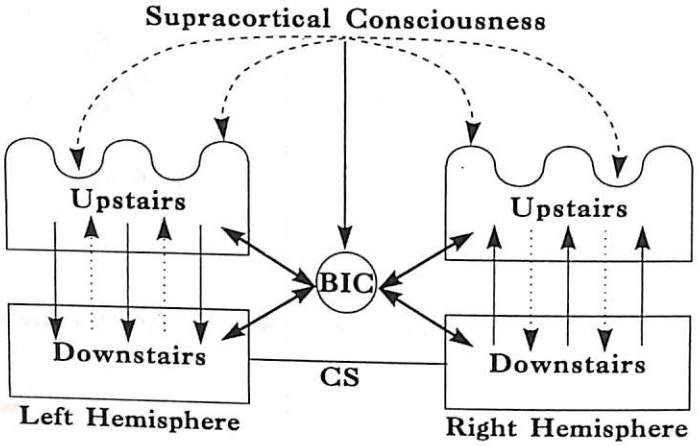
1. In name of decentralization, the power and resources of centre will be exhausted.
2. The inequitable slant of growth - the very characteristic of free enterprises and the consequent emulative tendencies is a real threat to the federal structure.
3. To frame a charter for the autonomous bodies is a very difficult task - to determine their structure, to have provision of a continuous flow of trained personnel, to set up financial mechanism and above all to ensure their accountability.

All are true depending on the angle it is observed. The 'Seer', the 'self' has to resolve all these hopes, desires, ideological differences and apprehensions on the basis of an optimum workability, into a dynamic integrated nonequilibrium to make it a process open for further evolution and transformation. The decision must be wise as well as shrewd. Wise because, it must make a deft use of available experiences. Shrewd because it must keep the leftist, rightist and the centrist with bees in their bonnets out of jobs in which they may create problem for self and for the whole programme.

There need to be a practical workable integration of individualism and universalism. In the process, there will be automatic censoring of pathological universalism (acquisition of boundary in universalism), i.e. communalism, and pathological individualism (acquisition of invasiveness or aggressiveness in individualism) i.e. terrorism.

The 'self' in the cerebral cortex executes its functions in the following ways.

1. It finds out a mechanism so that the centre becomes inexhaustible. The way the 'self' does it, is supreme consummation, the culmination of love play of biological integration centre and cosmic integration centre.
2. Following supreme consummation, the supreme biological homeostat gets consolidated. The Biological Integration Centre (BIC), takes care of the asymmetries (Fig. 14.2).



BIC Biological Integration Centre
CS Commissural System

BIC and the Asymmetries
FIG. 14.2

3. As a consequence of linking the central core with an inexhaustible source of supracosmic consciousness, a healthy way in decentralization process emerges. The following two points are worth mentioning.

a. The decentralization by absorbing directionless, or misdirected and often apparently destructive centrifugal tendencies, eventually strengthens the centre only. This absorption and biologization, are not possible by those centrists who do not have the 'superforce' in command. And for that, we have to go back to the point one - the necessity for supreme consummation.

b. As a consequence of decentralization of an open and apparently inexhaustible centre (inexhaustible within cortical limits), in the multichannel, polysynaptic central reticular core, which shows spontaneous activity, rhythmicity, tidal fluctuation, there develop integration centres in the central neuraxis, four in the spinal cord, and one in the brainstem. There are two more. One is in the hypothalamus and the other is in the cortex (Fig. 8.1). These integration centres in the central neuraxis are of prime importance in the decentralization process. By this way, there is a concentric radial flow of information through the central integration centres to and from the entire panoply of relatively stable neuronal organization of sensory and motor system.

4 Censoring act of 'self' : The 'self' knows that the most difficult task in the world of administration, is censoring. One can not chair a censor board unless one knows the whole; the whole in terms of space and time, the whole in terms of purpose and the goal, the whole as a system and the whole as a process. Unless one voices *'No'* from an inexhaustible source, there is no effective censoring. To say *'No'*, requires more complex and sound integrity than to say *'Yes'*. To thunder a *'No'*, needs more openness than to declare an affirmation. Because of openness to an inexhaustible source, a profound integration and the knowledge of the whole, the 'self' is in a state to censor the following pathological states.

Pathological States which are Censored

1. Communalism/Fundamentalism, Characterised by
   (i) Pathological universalism.
   (ii) Acquisition of confineness in universalism.
   (iii) Wrongly set integration.
   (iv) Cosmic block with retention of firm attachment to inner immobile being.

   Types:

   a. Assimilative : A pathological universalism with right brain dominance.

   b. Secessionist : A pathological universalism with left brain dominance.

2. Terrorism, Characterised by
   (i) Pathological Individualism.
   (ii) Acquisition of aggressiveness, invasiveness in individualism.
   (iii) Wrongly set integration.
   (iv) Disowning the umbrella of self-consciousness with firm attachment to deeper surging being.

   Types:

   a. Less specific, more diffuse : A pathological individualism with right brain dominance.

   b. More specific, less diffuse : A pathological individualism with left brain dominance.

Solution of the Asymmetry Problems

1. Problem of left and right :

It is solved in the following ways :-

a. Concentration and Meditation - An adventure in consciousness (see next chapter).

b. Simultaneous recruitment of axial hierarchy and parallel circuitry in the N.S.

c. Decentralization.

d. Looking backward. Having eyes behind the head. Retrospective analysis. In some yoga literature, the pineal gland has been equated with the 'third eye'. The pineal gland hangs behind and between the hemispheres.

2. Problem of Hierarchy :

Difficult to solve. In CNS, it has been solved in the following ways:-

a. At individual level, through synapses. (phenomenon of inversion)

b. Stair asynchrony has been tried to be solved by development of transcendental core in the cerebral cortex.

c. By 'self', through Meditation.

3. Problems of the Riddles of Heaven :

Most difficult to solve. The solution is brought forth entirely by 'self'. The way, the self does it is as follows:-

a. Development of biological integration centre which is the homeostat for five vital biological phenomena namely love, sex, ego, life and death - the phenomena of everyone's concern.

b. Surrender of 'self' to supracosmic consciousness.

c. Supreme Consummation - the result of love play of biological integration centre and cosmic integration centre (page 17).

The Changes in the Brain following Supreme Consummation

1. The Deft use of three Asymmetry Problem :

The asymmetry of left and right remains as rich potential for complimentary specialization. The problem of hierarchy is transformed into a huge resource for a stratified organization. The riddles of heavens get integrated by the Grace phenomenon.

2. Experience of Ananda :

Ananda is biologized supracosmic consciousness at the level of limbic nuclei.

3. Transformation of the Being along Great Chain of Being :

There is transformation of the cortical being into supracortical being, supracortical godhead and supracortical autonomy. A new individualism comes into existence. The in-divi-dual, not divisible from the Whole is called A-khanda. In Akhanda, the supracosmic consciousness practically captures the lower motor neurons.

4. Interhemispheric Relationship :

State of the being	Interhemispheric Relationship
Brainstem being.	Dominance of one hemisphere over other.
Limbic being.	Complimentary relationship.
Cortical being.	Dialectical interactionism.
Supracortical being.	Paradoxical behavior of two hemispheres.
Supracortical godhead.	Hemispherical equanimity following hemispherical transversion. She (right) becomes categorical and he (left) represents the eternity.
Supracortical autonomy.	All of the above, recruited for new creation in an integrated dynamic nonequilibrium in an open system.

5. Delineation of Seven Integration Centres :

See fig. 8.1, page 56.

6. The Creative Emergence :

During the Descent of supracosmic consciousness through infrastructure of the cerebral cortex, limbic nuclei and segmented neuraxis, one sees the creative emergence through Illumination, Intuition and Revelation.

7. The New Formation :

The Ananda is that which creates new space, new time. The segmental neuraxis demonstrates new mechanics.

Old Concepts Updated

At the end of this discussion, we are in a position to update some of the old concepts.

1. The aim is not to gain control over the autonomic nervous system. The aim is to make the cortical system autonomous - a supracortical autonomy in human form - an integrated ever-openness.
2. A bridge does not always nullify the identity of the two. In certain situations, it says, 'you are two, I am the bridge'. Similarly, the commissural system has never united the consciousness of two hemispheres. It has sustained and accentuated the difference of the two. In the animal kingdom, the human animal has the largest commissural system. So the hope that the commissural system will unite the two hemispheres will never succeed. The hemispherical equanimity develops following stabilization of BIC.
3. The downstairs of cerebral cortex is rich in bureaucratic neurons. To some extent they are responsible for stability. In some situations, they are hindrance to progress. The upstair cortex is full of innovative personalities, who are playing for materialization of the abstract. For them, there are thousands or millions of failures for one success. This success, however, is most enlivening to the bureaucrats. The bureaucrats conserve and consolidate the transforming inventions.

   And so, the upstairs of cerebral cortex without downstairs modular operon is baseless. Without 'upstair activity' the downstair modular operon runs a downhill course. The transcendental core is the key to their synchronization.
4. The hemispherical equanimity is not merely a dynamic equilibrium in information transfer of two hemispheres. It is an extreme nonequilibrium in an open system, a dynamic transversion of two hemispheres. Here, the representational hemisphere is vociferously categorical and the categorical hemisphere represents the eternity. The cosmocortical integrity is the mainstay for such equanimity.
5. Newtonian individualism ends with the universe. There is no individual in the Interuniversal Essence. Universalism begins with experience of Transuniversal Essence. The Transformative Essence ushers a new in-dividual-ism. The biologization of it is called the A-khanda-ism.

Chapter 15

Consciousness in Relation to Information Processing in the Human Brain

Consciousness in the brain is not monolithic. It has multiple facets and different components. The relevant ones are discussed here in relation to (A) hemispherical bias, (B) axial hierarchy, and (C) centripetal / centrifugal tendencies in the central reticular core.

A. The hemispherical bias in information processing and responsivity of the brain is towards either the left or the right. It may be nil in some situations and is diffuse in other states. Wakefulness, orientation and attention have a left sided bias[1]. Self-consciousness is strongly biased towards the language-hemisphere[2]. Arousal is a diffuse phenomenon. Memory and emotion have a right sided bias[1]. Meditation starts when hemispherical bias is zero. Illumination, intuition and revelation can follow only after hemispherical equanimity has been established.

B. In the spectrum of hierarchy, there are brainstem consciousness (arousal, wakefulness, orientation), limbic consciousness (motivation guided consciousness to seek pleasure and avoid the unpleasant) and cortical consciousness. In the cortical element, there are modular and supramodular components. Following that, there are transcortical and supracortical consciousness. These are not watertight compartments but indicate different phases and phase transitions. In the phenomena of consciousness in the human brain, the cerebral cortex and its connections are vital[1]. Amongst cortical consciousness, important are self-consciousness, attention and concentration. There are modular self-consciousness (egoistic 'I') and supramodular self-consciousness (small 'i'). The supracortical consciousness is manifested as love. The descent of supracortical consciousness in concurrence with self-consciousness is an expression of universal 'I'. S.C.C. biologized at the level of limbic nuclei is Ananda. When it captures the lower motor neurons also, the process is heading towards Akhandification.

C. The centripetal and centrifugal tendencies in the central reticular core for centralisation and decentralization of nerve energies need to be mentioned here. Alertness, orientation, concentration and meditation are rich in central integration components. Emotion, as a content of consciousness, has remarkable centrifugal tendencies. Paradoxically, the integrated centrifugal discharges are most prevalent during descent of supracortical consciousness through cortical modular operons to produce illumination, intuition and revelation.

Memory and Emotions are contents of Consciousness

Memory and emotions are contents of consciousness[1]. Memory is found at the individual level (genetic and molecular basis of memory in the neurons), interpersonal level (in the synapses), regional level (reverberation nerve circuitry) and at the central level involving the 'self' and the central reticular core (episodic memory). Again, some types of memory have a strong hemispherical bias. Post-traumatic amnesia is more common in right cerebral hemispherical lesions[1]. As episodic memory and emotion have an element of motivation and they are rich in limbic components.

The concept propounded by Tulving[3] is also worth mentioning in this context. He proposes a broad segmentation of consciousness into three hierarchically organized categories, each one related intimately with one of the three kinds of memory system; 'anoetic' consciousness (non-knowing) with procedural memory, 'noetic' consciousness (knowing) with semantic memory and 'autonoetic' consciousness (self-knowing) with episodic memory.

Emotion originates from the 'feelings' in limbic nuclei (neurological pleasure triangle constituted by septal nuclei and two amygdalae). Its centrifugal discharges have a strong limbicohypothalamic components. Integrated emotion could also be expressed intellectually (limbicocortical-association areas discharge), or mystically. In many occasions emotion could even be channelized for constructive execution.

Arousal, Wakefulness & Orientations

The study of Salazar et al[1] - the 'Mechanism of traumatic- unconsciousness' in a series of war-injured patients, is very relevant here. In their study, they have found hemispherical bias towards the left, for 'wakefulness'. It is also the first component to recover following 'traumatic unconsciousness'. They also subdivide 'arousal' into a tonic and phasic component. The tonic component is wakefulness and the phasic component is responsible for orientation towards a direction, which they have called 'directed attention'.

The brainstem-thalamocortical pathways and vice versa, and at least four extrathalamic brainstem-cortical pathways[4,5], namely the noradrenergic pathway from locus ceruleus, the dopaminergic pathway from ventral tegmental nuclei, the serotonergic pathway from midbrain raphe and the cholinergic pathway from ventral tegmental nuclei and vice versa are responsible for diffuse arousal.

Arousal is a diffuse phenomenon. Wakefulness has a tonic component with central integral and centripetal flow in the reticular core. Centrifugal tendencies are minimum. It has also a hemispherical bias towards language hemisphere. Orientation has a phasic component. So,

centrifugal tendencies are there in addition to central integral forces. During orientation, the hemispherical bias towards left is stronger than that in wakefulness.

Awareness and Consciousness

The self-sense has evolved to a well defined state in the human being. It has the capacity to keep the brain apparently and temporarily thermodynamically open or closed. In the process, two apparently different states are observed: Consciousness and Awareness.

Consciousness	**Awareness**
1. Thermodynamic openness.	1. Thermodynamically 'tight'.
2. Orientation to space, time and an unknown cause.	2. Orientation to space time and cause (if any, it is known).
3. Consciousness dominates over 'I' - sense.	3. 'I' - sense is the most dominant.

'Awareness' thus indicates a dualistic interactionism between the 'self' and the different worlds from which the brain receives its vibrations.

Five Elements in Biological Consciousness

Source of Vibration	**Various Worlds**	**Manifestations**
Infracortical.	Physical world. Organic world.	External awareness. Internal awareness.
Cortical.	Philosophical world. One's own world.	Intentionalism. Self-consciousness.
Supracortical.	Cosmic and supracosmic world.	Love, the element of sharing.

The Self-consciousness

We have discussed self-consciousness and its different facets in many shades in this work. Here, the following table is relevant.

Modular 'I'	Egoistic 'I'	Strong hemispherical bias towards left.
Supramodular 'I'	Small 'i'	Swing in either direction. Bias towards right.
Supracortical 'I' in concurrence with		
a. Supramodular 'I'	Small 'divine' 'i'	Hemispherical 'equanimity'.
b. Modular 'I'	Universal 'I'	Hemispherical 'equanimity' with integrated swing in either direction.

Attention, Concentration, Meditation and Samadhi

Refinement of *'in the brain-consciousness'* has taken place with the advent of self-consciousness. Attention, concentration and meditation become perfect during adventure of self-consciousness for love with cosmic and supracosmic consciousness.

Attention

The Process :

To become conscious of an object, subject or an abstract is attention. Attention is consciousness acted upon by an object, subject or an abstract. The abstract may be a dense coherent stream of events e.g. reading a book, watching a movie. The process culminates in dissecting polar opposite components from one.

Element of Metacognition :

No observable metacognition. It is there in latent phase.

In the language of communication science :

Control of access to consciousness is attention.

Brain Dynamics :

The intention is to get rid of hemispherical bias.

Neural substrate :

There is left hemispherical bias. The brainstem cortical component is prominent. There is centripetal flow in central reticular core.

Regarding axial hierarchy, it is enriched in brainstem cortical component. On its background, there is arousal, wakefulness and orientation. Self-consciousness is actively involved in it.

Subject-Object Relationship :

One subject may be attending to a number of events which exhibit a dense coherence. The relationship is pluralistic.

Concentration

The Process :

When different facets of self-consciousness of human brain scan that object, subject or abstract, analyse it threadbare to decide whether that is suitable for 'absorption' / 'biologization' or not, the process is called concentration.

The Element of Metacognition :

The process is inherently metacognitive.

In the language of Communication Science :

The control of access to consciousness is achieved. Context and goal analysis go on.

Brain Dynamics :

The intention is to achieve stair synchronization. Concentration is an active process adopted by the self, with minimum hemispherical bias to achieve stair synchronization during information processing and responsivity of the brain. A successful process ends up with an expression of equanimity and fearlessness, the starting point of meditation.

Neural Substrate :

There is minimum hemispherical bias. The limbic component is prominent. There is intensified centripetal flow in central reticular core. There is an element of motivation. So, in axial hierarchy the process has also a strong limbic component, in addition to brainstem and cortical components.

Subject-Object Relationship :

One subject, one object. Relationship is dualistic.

Meditation

The Process :

Meditation starts where the hemispherical bias is nil and stair asynchrony is minimum. The neocortical modules, responsible for self-consciousness, are recruited to absorb the lovable subject, object or abstract.

Element of Metacognition :

Metacognition is minimum.

In the language of Communication Science :

There is enrichment of content of consciousness. Restructuring of context and goal hierarchy in the light of new information goes on.

Brain Dynamics :

The intention is to achieve cosmocortical synchrony. It is an active process adopted by the 'self' on the background of nil hemispherical bias and minimum stair asynchrony to achieve cosmocortical synchronization during information processing and responsivity of the brain. The process begins with an experience of equanimity and fearlessness and ends up with an experience of Ananda.

Neural Substrate :

There is nil hemispherical bias. Supracortical component is prominent. There is rhythmical bidirectional flow in the central reticular core. Regarding axial hierarchy, it has strong cortical component. As there is an element of love, there is very strong supracortical influence. In fact, meditation, according to many, is always a supracortical affair. Meditation leads to synchronization of the upstairs and the downstairs of the cortex and following involvement of the limbic system, it leads to contemplation of Ananda.

Subject-Object Relationship :

Incorporation of the subject in the object and vice versa.

Summary Table

Aspects of Consciousness	Hemispherical Bias Towards		Axial Hierarchy	Centripetal and Centrifugal Radiation to and from Integration Centres.		
	Left	Right		Centri-petal	Central Integral	Centri-fugal
Arousal	–	–	Brainstem Cortical component	–	–	++
Wakefulness	++	–		+	+	–
Orientation	++	–	+++	+	+	+
Memory						
Procedural	+	++	Limbico cortical component	+ / –	+ / –	+ / –
Episodic	+	–	+++	+++	+	+++
Emotion	++	+++	+++	–	+	+++
Attention	+	–	Brainstem cortical component	+	+	–
Concentration	+	+	Cortical and limbic component	+	+++	–
Meditation	–	–	Cortico-Supracortical	+	+++	–
Illumination	Hemispherical equanimity		Supracortico-corticolimbic	–	++	+
Intuition	Hemispherical equanimity		Supracortico-corticolimbic	–	+++	+
Revelation	Hemispherical equanimity		Supracortico-corticolimbic	–	++++	+++
Akhandification	Hemispherical equanimity		Supracortico-corticolimbico strial and final motor neurons	+++	+++	+++

\+ = mild, ++ = moderate, +++ = severe, ++++ = very severe,
+ / – = attempt of nullification, – = nil.

Samadhi

During samadhi, the lovable object or abstract is biologized by the subject. No element of metacognition can be traced. It is a transforming process. The brain processes information and

responds in such a way that there is stair synchronization and nil hemispherical bias. The neurological pleasure triangle is perforated and there is radial discharge from the central reticular core. The subject-object relationship is monistic.

Illumination, Intuition and Revelation

During this phase of information processing and responsivity of the brain, the hemispherical bias is nil, stair asynchrony is absent and cosmocortical synchrony is infinite. Structurally polylithic brain becomes functionally monolithic. The axial hierarchy is utilized for downward causation. The hemispherical speciality is brought to task for adding enormity in the expression. Ananda is biologization of cosmic consciousness at the level of limbic pleasure triangle. It is this Ananda which is responsible for creation of new space, new time. The integrated centrifugal flow of nerve energy is enlivening for the creation of new space, new time.

The upstair activity, during this bi-hemispherical equanimous manifestation is translated through downstair modular operon. Involvement of third cortical layer in the modular operon results in illumination; of the second cortical layer, intuition; and of the first, revelation.

The Akhandification

An Akhanda is aware of the fundamental components (khanda, pieces) of the information processing and responsivity systems of the central neuraxis. He is also conscious of the openness of his brain to this living universe and to the Interuniversal Essence. The supracosmic consciousness, self-consciousness and numerous phase specific consciousness in his brain play in concurrence. The hemispherical equanimity in his inverted neuraxis expresses supracosmic consciousness through his lower motor neurons. During the great transit of an Akhanda from his physical body, both the inside and outside of his brain process information and respond in an identical way.

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Chapter 16

Purity Perfection Harmony and Bliss are Neurological Phenomena

The Aim of Neuroscience and the State of Grace of the Brain

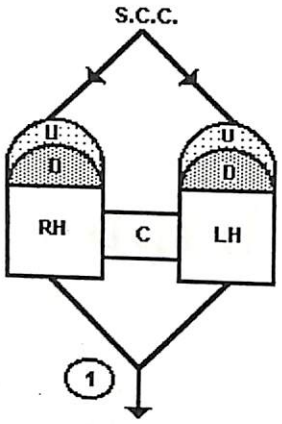
The aim of neuroscience is not only to understand how does the brain work but also to find out how several brains could work together in harmony and peace. We are also to answer, how does the brain interact with the Essence from which several universe(s), the Multiverse is born? Infact, unless the third question is answered, the first and second remain ever enigmatic.

To understand the Essence of the Multiversity, the brain needs to be elevated to the State of Grace, when Mother Nature, the executive front of Consciousness, will have a free hand to play with this highly evolved and essentially transformed human brain.

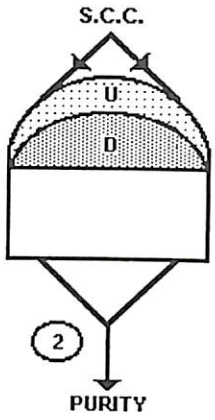
The State of Grace is a kind of framing of the brain when during information processing and responsivity, the hemispherical bias is nil, stair-asynchrony is absent and the cosmocortical synchronization is absolute. In this state, purity, perfection harmony and bliss are experienced as equanimity, fearlessness, peace and Ananda.

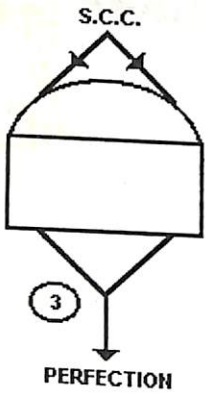
Purity, Perfection, Harmony and Bliss

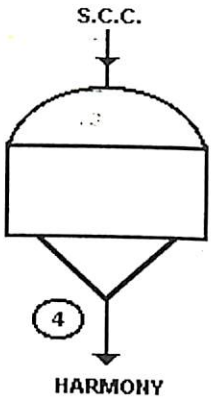
Purity, Perfection, Harmony and Bliss are words used to express some abstract ideas which can be explained on the basis of modus operandi of highly evolved human brain. These abstracts are experienced in the brain with the involvement of reasoning (cortex), feelings (limbic pleasure triangle) and instincts (reticular system). The corresponding experiences of the four abstracts are Equanimity, Fearlessness, Peace and Ananda. The following table offers (i) the neurological basis of these concepts in terms of the modus operandi of the brain, (ii) the methods one adopts to train and educate the brain in the concerned direction and (iii) the feelings one experiences during such a working of the brain.

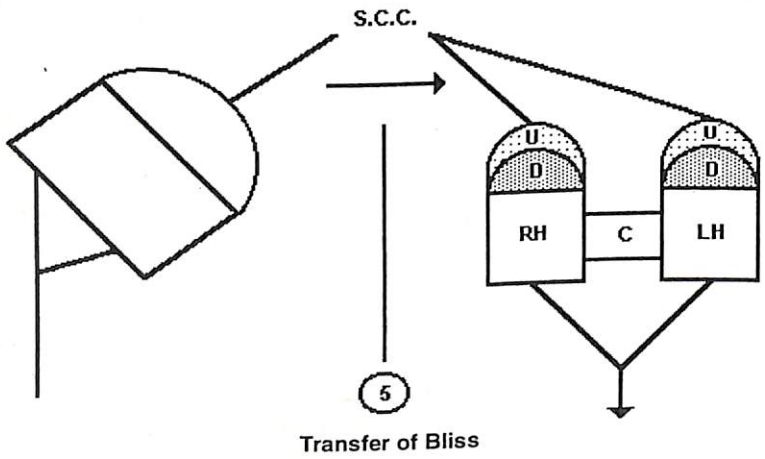


S. C. C.	Supracosmic Consciousness
U	Upstairs of Cortex
D	Downstairs of Cortex
RH	Right Hemisphere
LH	Left Hemisphere
C	Commissural System
1	Different Compartments for Information Processing in the Brain.
2	Nil Hemispherical Bias Neurological Purity Feelings of Equanimity.
3	Nil Stair Asynchrony Neurological Perfection Feelings of Fearlessness.
4	Nil Cosmocortical Asynchrony Neurological Harmony Feelings of Peace.
5	Transferred Purity, Perfection and Harmony, is Bliss. Feelings of Ananda.









Purity Perfection Harmony and Bliss
FIG. 16.1

The Abstracts	Modus Operandi of the Brain	Methods to Achieve	Feelings Experienced
Purity	Active information processing and responsivity of the brain with nil hemispherical bias is neurological purity.	Concentration on an object / subject / abstract, which is beyond polar opposites.	Equanimity
Perfection	Active information processing and responsivity of the brain with nil stair-asynchrony is neurological perfection. The upstairs and downstairs of cortex are synchronized for perfect information processing and responsivity of the brain.	Meditation on a pure object / subject / abstract.	Fearlessness
Harmony	Active information processing and responsivity of the brain with absence of cosmocortical asynchrony. During harmony there is exact complementation of asymmetry in biology by asymmetry in physics. In other words, when the difference between one's nature & Mother Nature is nil, there is neurological harmony. It is perfection in the dynamic facet of 'self'.	Surrender of ego i. of a doer, ii. of being an instrument, iii. of becoming self-consecrator.	Peace.
Bliss	The process of 'sharing' or 'transfer' of this purity, perfection and harmony to others' brains is blessing. That what is 'shared' or 'transferred' is bliss.	There is no method to achieve it. It is got done. The 'Divine' works through supracortical Autonomy.	Ananda.

Chapter 17

Subtle Energy

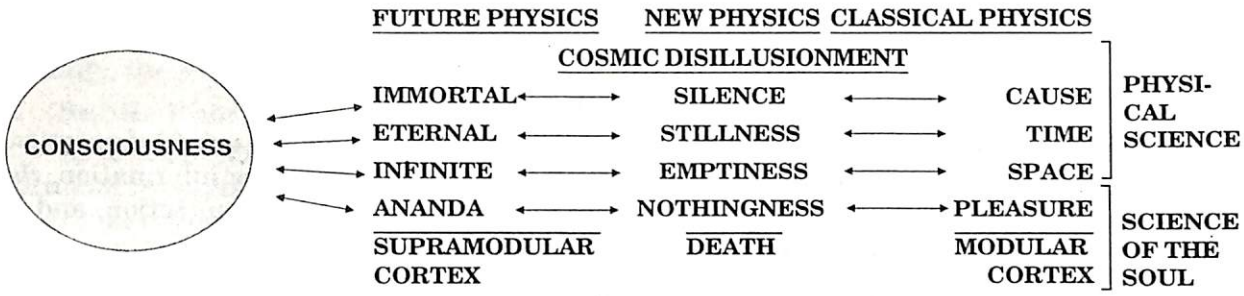
Energy is ubiquitous. It is essential and indispensable, in both Newtonian and Divine mechanics. The receptors of our nervous system interact with different forms of energy in our surroundings. Over billion of years, with the ongoing refinement of our senses, the receptors of nervous system have been making efforts to sense fine, subtle forms of energy, whether the domain be biological, psychological, or spiritual. This evolutionary trend of nervous system can be seen as an attempt to gain access to the free source of energy from vacuum, the domain of Mother Nature. She executes Her skill through subtle energy. A biologically integrated brain is capable of unification of consciousness within and consciousness outside, through interplay with this subtle energy.

In this chapter, the philosophy of subtle energy will be discussed first and the later part will deal with its practical implications.

The Philosophy

The subtle energy in its subtlest form is Mother Nature. Mother Nature is the executive front of consciousness. Mother Nature is the mightiest. She is the embodiment of harmony and beauty. She possesses a versatile perfection. In Her freedom, implicit is an order, the secret of Her majesty. Keeping this in view, if one searches through the field of vacuum physics, one gets stuck with photon, the mightiest; the conformon, the cause of implicit order; the neutrino, the root of openness and perfection, which can change the context and contributes to the 'meaning'; and the phonon, the cause of coherence and beauty. They are the phenomenal hands of noumenal consciousness.

Consciousness, unfortunately, can not be defined. Its transcendental qualities are immortality, eternity, infinity and ananda. Their nontranscendental counterparts are cause, space time and pleasure respectively . The phases which bridge the nontranscendentals and transcendentals are silence, stillness, emptiness and nothingness (Fig. 17.1), and it is here, where subtle energies are observed. In the Akhanda Paradigm conformon may be seen in the mould of silence;



Consciousness Qualified In Twelve words

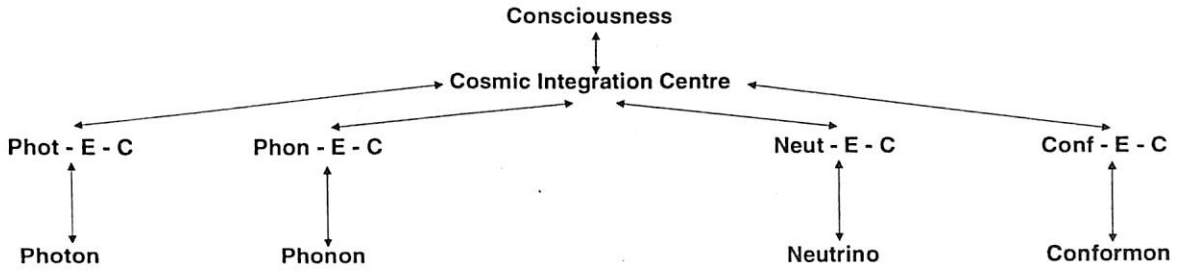
FIG. 17.1

photon, of emptiness; phonon, of stillness; and neutrino, of nothingness. They construct matter-energy in the void. All of them have one domain in matter-energy dimension and another domain in consciousness dimension.

Subtle Energies

Philosophical terminology	Matter-Energy dimension	Consciousness dimension.
Postsilence Primal Order (Conf-E-C)	Conformon	Conformon equivalent of consciousness
Poststillness Primal Sound (Phon-E-C)	Phonon	Phonon Equivalent of consciousness.
Postemptiness Primal Light (Phot-E-C)	Photon	Photon equivalent of consciousness.
Postnothingness Primal Force (Neut-E-C)	Neutrino	Neutrino equivalent of consciousness.

If individually these four massless wavepackage of energy are called nascent nature, then collectively, with the Whole, they constitute the Mother Nature. Integration of these four wavepackage of energy with consciousness, constitute the cosmic integration centre, the heart of Mother Nature.



Cosmic Integration Centre

FIG. 17.2

Keeping this philosophical background in view, let us now look at the practical implications of this subtle energy.

Practical Implications

The practical implications of this subtle energy are seen during building up of information, during holographic communication, in the process of materializing the living information, *the Life Force,* in the mechanics of maintenance of hierarchy in a pluralistic organization, and in the process of integrating information and communication in an individual unit.

1. Information and Subtle Energy :

Information has a electromagnetic and a macromolecular substrate. The essence of electromagnetic substrate is the photon and that of macromolecular substrate is the phonon. Information also has a conformational aspect, in conformity with the Source / Whole. This is taken care of by conformon. In a biological system, the thermodynamic openness of information and its perfection is executed by the neutrino. Neutrino can change the context and therefore contributes to the 'meaning' of the Whole.

2. Communication and Subtle Energy :

During a holographic transfer of information, subtle energies at the offering unit and those at receiving unit synchronize. The conformity with the Whole (conformon), the electromagnetic substrate (photon), the guided macromolecular movement (phonon) essential during transfer of information between two units, and the openness (neutrino) of the information to perfection are taken care of during synchronization.

3. The Life Force - A Living Information :

The conformon, photon, phonon and neutrino have one dimension in matter-energy and another dimension in consciousness. They are beyond polar opposites (particle and antiparticle), abundant in this universe, both cosmic and earthly, long-lived, available to everyone and every thing 'ad libitum'. They show interpenetration of space time and cause in their behavior. In the Akhanda Paradigm, they are called *antematter* (not antimatter). In the majority of informations, their integration is inconspicuous or fragmented. Integration of all four brings consciousness in the picture and adds 'Life' to an information. In other words, the information is then the Life Force (see also page 244). When the information that consciousness inside and consciousness outside the brain are one, gets biologized, the life force within the brain becomes eternal and infinite, immortal and ecstatic. In the Akhanda Paradigm, Mother Nature confers this living information through the cerebral cortex and then via corticobrainstem neuronal tracts to the brainstem vital centres of cardiac action, vasomotion and respiration.

4. Subtle Energy in maintenance of hierarchy and polarity in a pluralistic organization :

In a pluralistic organization, the individual units are organized with a stratified stability. The information generation in individual units and communication between different units without disturbing the harmony and peace of the Whole is maintained by subtle energy according to consciousness-antematter meridian, laid down by the polarity of the individual units. In a multisystem being, the consciousness-antematter meridians lay down the channels

of circulation of Life Force from crown to the toe and if this is disturbed, one suffers from disturbance in 'ease', the disease, disturbance in physiology, the pathology, the disintegration of sanity, the insanity.

5. Subtle Energy in integrating information in individual unit :

In an individual unit, there are several subunits which are responsible for generation, nurturing, reception, transmission and delivery of different facets of information. Integration of all these happenings is done by subtle energy. In a living biological unit, the cell, the integration of five principal cell organelle, namely cell membrane, DNA-replication apparatus, DNA-transcription and protein synthetic machinery, lysozome and mitochondria which are supposed to be materialistic representation of Love, Sex, Life, Ego and Death (of elementary phenomenology) respectively, are being done at consciousness level through this subtle energy. Disturbed integration, here, is the root cause of cellular pathology. The biochemical and mechanical disintegrations are only consequential.

The Future Trend

The discussion above initiates the opening up of multiple research frontiers in information technology and telecommunication. It also helps to understand the Life Force in a pluralistic organization. Finally, it teaches us to say good bye to death, disease and disintegration and shows the way of living in harmony and peace with the Whole.

Chapter 18

The Way I look at the Brain

The brain is the meeting point of three scientific disciplines — neuroscience, astrophysics and subatomic physics. It is this organ which has given me the sense of 'I' / 'self'. This is why I can start my article with this heading, "the way 'I' look at the brain". It is the brain which is the system for communication between 'I' within me and the 'I' from which several universe(s), the Multiverse, is born. The brain has bestowed on me the capacity to cognize, to perceive, and to sense the sensation of the Essence of the Multiversity.

It is the brain which has accepted the responsibility of keeping the being thermodynamically open. When all other systems of a being are relatively 'closed', the brain works far from equilibrium and is relatively open. It is the brain which has access to 'free source' of energy. It is the brain which is capable of extracting energy from 'vacuum'.

The brain is capable of receiving information from the cosmos, through its cerebral cortex. It perceives the supracortical phenomenon and supracortical consciousness. All the efforts of the brain are directed towards achieving unification of consciousness inside and consciousness outside it. The evolutionary process of the brain has been guided by this singlemost constant principle. The process of evolution is also accretive! The nervous system which initially started developing through interaction with ordinary nature, over millions of years has refined and tuned itself to interact with nascent nature, the newborn baby of Mother Nature. At this critical juncture, the brain has been aspiring to become the sounding board of Mother Nature. Mother Nature is the executive front of consciousness. The culmination of the whole play of life on this earth is unification of Interuniversal Essence, the Transuniversal consciousness, the Essence of the Multiversity with consciousness inside the brain. The brain is the pivotal organ for Supreme Consummation. It is the brain which bids farewell to Death and integrates it with Love and Life, with Ego and Sex. The Supreme Biological Homeostat which deals with the elementary phenomenology (Love, Sex, Ego, Life and Death) is in the brain. All said, my starting point to analyze the brain, therefore, is the Biological Integration Centre.

It is through these five phenomena, the consciousness inside the brain communicates with consciousness outside the brain, and the Supreme Consummation of the two consolidates the developing Biological Integration Centre.

The structural unit of brain is a neuron, the nerve cell. The human brain consists of billions of neurons which are interconnected through very specialized junctions, synapses. According to the polarity of their membrane and serenity of their genes, the neurons are arranged hierarchically to achieve the functional need of the segmental neuraxis, of the telencephalon, diencephalon, and the procencephalon. Tremendous potential has been left with millions of neurons in the reticular system which are in communion with the crown, the cerebral cortex, the mantle of billions of neurons.

The neurons of cerebral cortex of a conventional brain, alone or in small group, receive, conduct, analyze, compute, and integrate information from peripheral receptors, and deliver a decision to the motor outpost. The neurons of cerebral cortex of the brain I am talking about, in addition, handle information from 'above'. Commensurate with this evolutionary need, the upper three layers of the cerebral cortex have been specializing for these supracortical activities and the lower three layers have been taking up the supporting role to sustain the existence of the being on this earth. The 'transcendental core' bridges these upstair and downstair activities.

The information that cerebral cortical neurons receive, is communicated to the neurons in line, according to their hierarchy. The synapses (neuro-neuronal junction) play a significant role in this communication. *The information transfer from one neuron to another, in supracortical context, is holographic.* The presenting neuron delivers it in a holographic way and the receiving one accepts it in a holographic manner. The two holographs synchronize at the synapse. The 'subtle energies' which are involved in this transfer of information are conformon, photon, phonon and neutrino. The conformational aspect of a holographic information is taken care of by conformon. The electromagnetic substrate of the information remains, the photon. The macromolecular movements needed for information transfer between two biological units is carried away by the phonon. The neutrino is responsible for keeping the system of communication thermodynamically open. Any two holographs can synchronize only when there is complete integration of these four wavepackage of energies.

So far if no neurophysiologist has sought the answer as to why the so beautiful dendrites, with innumerable spines, have been growing from the cortical neurons centrifugally towards the top of the head, it does not matter. According to this new paradigm, these dendrites have been assigned the work to receive information from the supracortical domain. This means that the whole neuraxis is just like an inverted tree with its root in the eternity and the branches down below, the peripheral nerves. In an inverted neuraxis the information processing and responsivity of the brain is shaped for its own purpose. The essential biological hardware which foster the development of this paradigm, are the cerebral cortex and the reticular system. Out of reticular system around the central canal of the spinal cord, develop four integration centres. The brainstem integration centre has become a text book information by now. The integration centre in the hypothalamus is also well known. The biological integration centre has just been mentioned in the previous paragraphs. With more and more capacity and efficiency of cerebral cortex to handle information from the supracortical domain, the seven integration centres of the neuraxis become functional resulting in more efficacy and stability. Upanishadic yoga

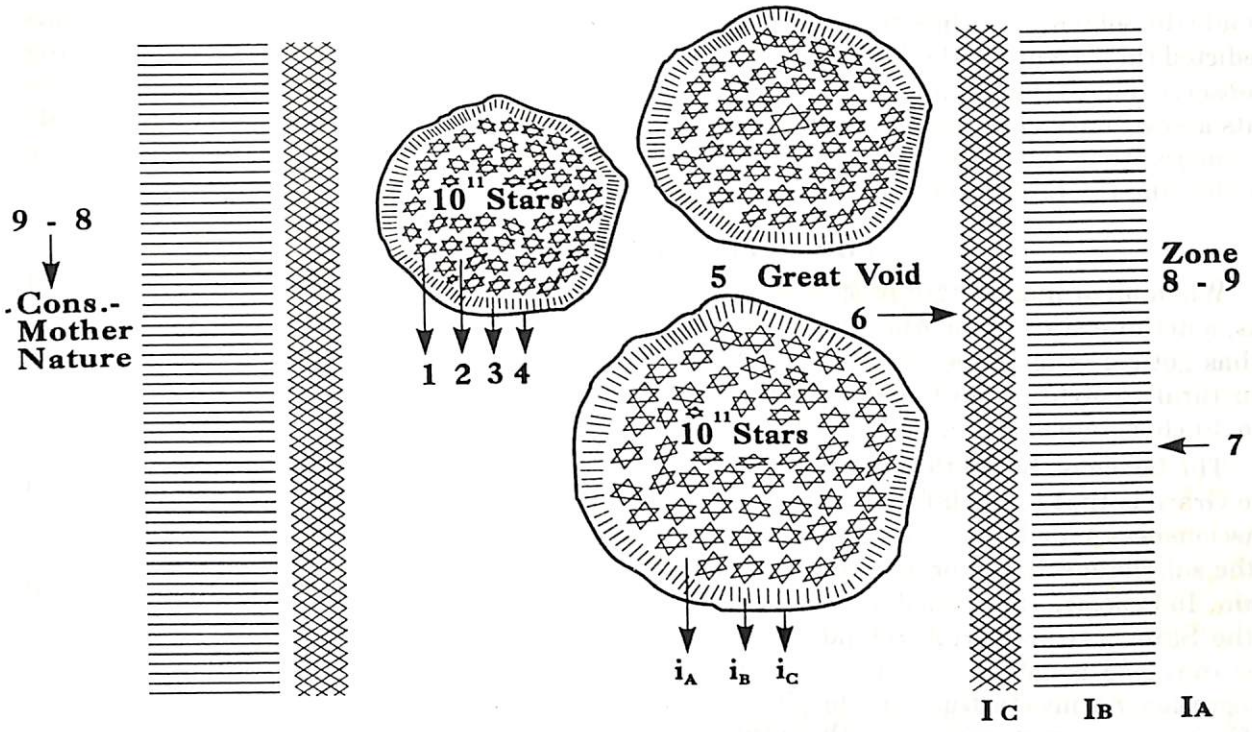
literature has correctly picked up these integration centres (Fig. 8.1, page 56) as 'chakras' ! Simultaneous with the delineation of these integration centres in the neuraxis, the self-consciousness which was initially confined to the sixth cortical layer evolves through the fifth, fourth, third and second layers to the first cortical layer and aspires to kiss its biological beyond for a self-opening. With these cortical and reticular dynamics going hand in hand, another notable feature is the reorganization of the limbic system.

The whole journey for restructuring the brain is made comfortable by taking into confidence the strategically located two amygdalae of left and right temporal lobes and the midline septal nuclei. They constitute a multiplanar, multidimensional triangle, the neurological pleasure triangle. When this triangle is perforated by holistic information and energy flow from the cerebral mantle to the segmental neuraxis or vice versa, it generates ecstatic pleasure, the 'Ananda'. The supracortical consciousness biologized at the level of limbic pleasure triangle is 'Ananda'. During this restructuring the human 'self' perforates the cosmological pleasure triangle guarded by constants of Einstein (velocity of light), Max Planck (Planck's constant) and Prigogine (entropy barrier) and comes face to face with the melting Love. When one's nature becomes Mother Nature, one is consciousness.

This state of brain can not be achieved unless the biological integration centre is well established. To keep a brain functionally effective during sensing of the Interuniversal Essence, the biological integration is an essential prerequisite. Whether the brain senses this Essence going outside this universe (by a space craft !) or by just sitting on this planet earth, it is all the same for a biologically integrated brain.

This supreme biological homeostat takes care not only of the brain but also of the heart and lungs (and kidney and liver), so that the response and output of the brain in the interstellar space, in the intergalactic nebulae, in the horizon of the universe, or in the Essence of the Multiversity remains desirably optimum. There is an outstanding correlation of the four milestones in mystical experiences with the astrophysical station of self and the milestones of subatomic physics (see also page 132).

Mystical Experiences.	**Astrophysical station of 'self'.**	**Milestones in subatomic physics.**
1. Profound uncertainty.	Interstellar space.	Apparent void. (Quantum Mechanics) (Uncertainty Principle)
2. The Great void.	Intergalactic nebulae	Vacuum. (Quantum vacuum)
3. The 'shadow of the Divine'. The Grace of God.	Horizon of the universe.	Tunnelling of vacuum. Decaying of vacuum.
4. Consciousness.	Interuniversal Essence.	Consciousness.



Astrobiological Experience	Situation of the 'Self'	
1. The Star	1. Sensory Neuron	
2. The Interstellar Nebulae	2. Inner Perceptual Space	(i_A)
3. Towards the horizon of Galaxy	3. Inner Quantum Tunnel	(i_B)
4. Boundary of the Galaxy	4. Inner Holographic Domain	(i_C)
5. Great Void (Inergalactic Nebulae)	5. In between i_C and I_C	
6. Interpenetration of Space Time and Cause Boundary of the Universe	6. Outer Holoflux	(I_C)
7. Periphery of the Interuniversal Essence	7. Inner Tunnel	(I_B)
8. Mother Nature, the Cause	8. Outer Spaceless vast, Timeless Eternity	(I_A)
9. Consciousness, the centre of Interuniversal Essence	9. Supracortical	

The Station of 'Self' in the Brain and Astrobiological Experiences

FIG. 18.1

Inspite of having information density (informations per unit volume) of a magnitude ten thousand times or more than that of a modern computer, the information processing of the brain is a million to a billion times slower than of the latter. And again, it is believed that only ten per cent of the capacity of the brain is utilized for maintenance and routine activities of the being. Though the human brain has produced radiotelescopes which can send and receive messages into and from the interstellar space, has made space craft, like Pioneer, for journey

outside the solar system, has imagined hyperspace adventures (Isaac Asimov), and finally it has predicted the Essence of the Multiversity (the Life-line of this humanity), it will be interesting to observe and see what happens to its information processing and responsivity, what happens to its accessibility to and retrievability of enormous amount of informations inside and outside its sphere, when the biologically integrated brain is exposed to interstellar space, intergalactic nebulae and the Essence of the Multiversity.

The Grace Phenomenon

When an ordinary brain processes information or responds to it, there is a hemispherical bias, a definite stair-asynchrony and a cosmocortical disharmony. The brain that I am looking at has got rid of all three. The results of information processing and responsivity of such a structurally polylithic but functionally monolithic brain are illumination, intuition and revelation. Such a state of brain, could be called the State of Grace.

The Grace is the subtlest form of subtle 'energy' which is informational as well as causal. The Grace is that living information which unequivocally says that consciousness inside and consciousness outside the brain are identical. The Grace initiates the process of transformation of the subsystems in the brain and in concurrence, it makes consciousness independent of the brain. To biologize this causal, informational, subtlest 'energy', the brain needs to be elevated to the 'State of Grace' (Sri Aurobindo). When the Grace is an information, the context at which it is conveyed is called the 'value' and the most valuable value in this context is biological integration. So, my starting point for this chapter was biological integration centre. In the State of Grace only, structurally polylithic brain becomes functionally monolithic. The outcome of responsivity of such a brain, elevated to the State of Grace, is nothing but Divine Materialism.

PART - IV

Milestones in the process of Becoming

Beyond my biological realm,
Unperturbed in cosmic beam,
I must merge with the Universal 'I'.

Chapter 19

From Sensation to Consciousness and A Welcome Back

Nontranscendental Transcendental and Transformational Milestones

Introduction

Even at the fag end of the twentieth century, there are still neurophysiologists who write in text books of physiology that consciousness is mortal. It dies with the death of the brain. Many other neurophysiologists take consciousness as the equivalent of sensation. When a neuron responds to a stimulus, where is the need of a 'non-sensical' consciousness? Others use a refined version, 'the consciousness is the inner feeling, a sensation in the heart' !

The Akhanda Pàradigm brings down consciousness in the sensible domain. It also explains the milestones in the pathway from sensation to consciousness.

The idea that sensation is consciousness is true to begin with. The sensation results from spatiotemporal activity in a cell. It is bounded by space and time. In neurons, this phenomenon is refined into a phase-specific 'activity'. Several millions of neurons construct the nervous system. Their complex organization, according to meridians laid down by space-cue, time-cue, cause-cue and ananda-cue of the cells, has built up the hierarchy in the nervous system. Finally, there is a sense of 'self', the 'self-consciousness'. It has evolved with a hemispherical bias - a bias towards categorical hemisphere. This 'self' can also project itself on biological beyond, on the horizon of the universe, or outside our universe, in the Essence of the Multiversity.

In the way from 'sensation' to 'consciousness', the experiences of 'self' spiral round the nontranscendental, transcendental and transformational milestones. In between non-transcendental and transcendental milestones, there is existential lysis ('World collapse' of Prof. John Welwood), the great void. In between transcendental and transformational milestones, in the bare Reality, active is the Cause Immortal, the Mother Nature.

The neural substrate for these experiences in the human brain is the cerebral cortex through which the limbic pleasure triangle and the reticular system communicate with the universal consciousness.

The cerebral cortex has six layers. The lower three layers show modular activity. They are ever-busy with innate biology. In the upper three layers, the cosmic world is involuted. The *transcendental core* is in between the upstairs and the downstairs of the cerebral cortex and is represented by the model shown in the fig. 1.3. Between the upper layers of cortex and the external cosmos, there is *transformational zone.* The key for transformation is in the Supreme Consummation - when the innate asymmetry in biology is complemented by innate asymmetry in physics.

We will describe the milestones in relation to prescribed model of the transcendental core (Fig. 1.3). It is almost identical to the passage from space time to consciousness (chapter 27).

The Milestones

I. Nontranscendental Milestones
   1. Sensation.
   2. Perception.
   3. Intelligence.
   4. Cognition.

II. The Existential Lysis; the great void.

III. Transcendental Milestones.
   1. Imagination.
   2. Abstraction.

IV. The Cause Immortality; The Mother Nature.

V. Transformational Milestones.
   1. Concretization of the abstract.
   2. Illumination, Intuition and Revelation.

VI New Creation.

Creation of new space, new time. A new sensation. The Ananda.

Nontranscendental Milestones

The sensation is physical and confined to neurons of lower layers of cerebral cortex and some infracortical nuclei, like the thalamus. The perception is a bit higher, resulting from high energy activities in the circumneuronal perceptual space (i_A, in Fig. 1.3). It is responsible for our structural, four dimensional, world view. Intelligence is determined by the activities in the quantum mechanical tunnel (i_B, in Fig. 1.3). Cognition is done by the cognising 'self', the inner frequency domain (i_C, in Fig. 1.3).

The cognizing 'self' works with the instrument made of physical, perceptual and intellectual components.

There are times when the cognizing 'self' takes off from the helipad, made of the physical, perceptual and intellectual apparatuses, and the process then becomes transcendental.

The Existential Lysis; The Great Void

Philosophically it is the great void. Cosmologically, it is the intergalactic nebula. In neuropsychology, it is existential lysis. In particle physics, it is quantum vacuum. To have a conscious experience of it is characteristic of an evolving human brain.

The great void separates the nontranscendental and transcendental milestones and leads the transcendental towards transformational horizon. Those who are not aware of this, call it 'cosmic disillusionment' or death. It is this void which is difficult to bridge. It is where space and time 'dissolve' for a person who is not desperately keen to look for a cause*

In the timelessness I move,
There is no ground, no base.
With nothingness in life, my journey begins!
I find no time, no space.
Who am I ? What I am for ?
Who is not letting me die ?
For who's desire I remain alive ?
Who is the Cause and for why ?

Differential Diagnosis :

The existential lysis and its consequences need to be differentiated from three self-alien disorders; Depersonalization disorder, Psychogenic fugue and Multiple personality.

In all of those conditions, biological integrity is absent. There is also loss of continuity of autobiographical experiences. Any unviolable Goal or context is conspicuous by its absence.

The Transcendental Flight

For a transcendental flight, the 'self' needs:

1. A Passport.
2. A Plane Ticket.
3. A Visa from the other end.

1. Getting the Passport ready :

The 'self' needs to elevate itself to the frequency zone.

So, the preliminary prerequisites (Ref: Bhagavat Gita, Chapter 6, verse 14) are

i. to quiten the neuronal sensation (brain stilling).
ii. to clean the perceptual space.
iii.. to tunnellize intellectual activity towards the transcendental core, and

*Sir, Albert Einstein, throughout his life, searched for the cause and for him there was no dissolution of space time. For him it is **spacetime**. Similarly, the concept of death also dies here for those persons whose brain has been evolving towards the State of Grace.

finally,

iv. to 'laserize' the cognizing zone.

Two forms of obstruction are encountered. One is the product of the Past and the second is the hopes for the Future: the trough and the crest of the 'cognizing' membrane.

a. The Past :

The waves of unfulfilled desires of the past come up as 'cloud' from the perceptual space (iA) and concentrate on the trough of the frequency zone. There are three categories of desires. Most of our desires are contagious, borrowed from other. A few are acquired. Some are innate, the legacy of whole phylogeny of desires.

b. The Future :

The future hopes are the propensities. For a successful transcendental flight all propensities should be made into one and only one, the 'intentionalism' for consciousness.

The only way to get rid of these difficulties is hard practice of constant renunciation, the conscious critical rejection. Be the seer of the seer. Then seer of the seer of the seer and so on.

2. The Plane Ticket :

The ticket is faith, devotion and love. The faith is in certainty of supracosmic consciousness. The devotion is an emotional attachment to it. And the love is an affair with it. *The growing pole of faith is devotion. The devotion on the other hand, is crystallized love.* The neurological substrates for faith, devotion and love are in the spines of dendritic arborization in the third, second and first cerebral cortical layer respectively. A long companionship with a Supracortical Autonomy (Sadguru) enriches the third, second and first layer of the cortex with all desirable wealth.

3. The Visa :

When all requisitions are fulfilled, one still has to try hard for a visa and during the process, the self needs to be enriched with imperishable faith, unswerving devotion and stainless love. A visa is offered by Mother Nature to those who

i. are fully integrated.
ii. have sharpened the 'self', sharper than laser i.e. all desires and hopes are trimmed, and it is enriched with faith, devotion and love.
iii. are seeking consciousness, only for consciousness.

The transcension begins. The self 'pierces' the frequency zone (iC). An integrated 'self' searching for the Cause, comes across the transcendental milestones, the imagination and the abstraction.

Transcendental Milestones

The void is not a void for one who is fully integrated, has trimmed all hopes and desires and seeking consciousness only for consciousness.

The milestones he comes across are as under.

I. Imagination :

Imagination is the finest thread between the cause and the immortality, between evanescence and eternity, between the finite and infinity and between pleasure and ananda.

The prolonged true imagination leads to abstraction.

II. Abstraction :

Abstraction is a structured, tunnelized imagination. In the fig. 1.3, it happens through the outer tunnel(I_B).

The Cause Immortality : The Mother Nature

An abstractor in his final phase of acclivity, comes across the Cause Immortality, i.e. Mother Nature, in the spaceless Vast (Fig. 1.3, plane I_A). There is an enormous downpour of Grace on the ascetic serenity. The 'sensation' is felt in the genes there. The Mother Nature scrutinizes the genes.

The Mother Nature and Consciousness are inseparable chums. Every crypt and abyss of the genes are 'cleaned' and made conducive for expression of ananda, the bliss. No other vibration is allowed here. Here to fulfill the self is Divine's desire. The Transformation begins.

Transformational Milestones

Here, the inside is out. The mysticism and the science are identical. The observer, the process of observation and the observed are one. The brain is elevated to the State of Grace (see chapter 36). There is neurological purity, perfection, harmony and peace (see chapter 16).

1. Concretization of the abstract begins.
2. There is illumination, intuition, and revelation.

There is again a 3-dimensional outlay, the courtesy of the downstair's modular operon in the cerebral cortex. The cerebral cortex is 'captured' by supracosmic consciousness layer by layer.

The incorporation of third cortical layer in modular operon results in illumination, that of second cortical layer in intuition and that of first cortical layer, the revelation.

New Creation

Finally the limbic pleasure triangle experiences ananda. There is creation of new space, new time, a new sensation. A kind of 'Divine Materialism'.

The Transformation happens on this Earth

> "We shall not cease from exploration and the end of all our exploring will come back to the place from which we came and know it for the first time."
>
> - T. S. Elliot.

After going through the milestones of the complete cycle, the manifestations begin on this earth. The work may be the same, the ordinary, the mundane. But it exudes a tremendous transformative potential.

"Before enlightment
Chopping wood
Carrying water,

After enlightment
Chopping wood
Carrying water"

- A Zen proverb.

The only distinguishing feature is 'radiation' of transformative 'field'. The person is very much on the earth and experiences a Divine Materialism (see also the chapter on The process of Transformation, chapter 22).

The Station of 'Self' in the Brain and Astrophysical Stations

During the journey from Sensation to Consciousness, the person could correlate the astronomical stations with the station of 'self' in the brain. This has been mentioned in page 122-23 and in the fig. 18.1. This can be summarised as in the following table.

Situation of the 'Self'	**Astrophysical Stations**
Sensory Neuron.	The Star.
Inner perceptual space (iA)	The interstellar space.
Inner Quantum Tunnel (iB)	Towards the horizon of galaxy.
Inner Holographic blur (iC)	Boundary of the galaxy.
In between iC and IC.	Great Void. Intergalactic space.
Outer holoflux (IC)	Interpenetration of 'ghost' spacetime and causation. Boundary of the universe.
Inner Tunnel (IB)	Periphery of the interuniversal space.
Outer spaceless Vast (IA)	Mother Nature. Timeless eternity.
Supracortical	Consciousness. Centre of Interuniversal Essence.

Slippery Slopes - Put Signboard of Cautions

The central nervous system has:

1. an axial hierarchical organization.
2. a parallel arrangement.
3. a centripetal and centrifugal discharge potential.
4. a mechanism of multiplanar, multidimensional involvement through reticular system and finally,

5. the brain communicates with the Essence of the Multiversity through the cerebral cortex leaving every door open to the cosmos.

When every door of a multidimensional system is open, one has to be cautious about *slippery slopes* and the signboard of cautions need to be put there.

Neural Substrate for Slippery Slopes

The neural substrate for slippery slopes is very easy to understand from the concept of the transcendental core (Fig 1.3). If one extends its seven planes in frontal, parietal, occipital and temporal lobes, one gets the idea of slippery slopes in the cortical level. In the subcortical areas, the transcendental cores are there in the synapses, and so the slippery slopes are more complicated and sinuous.

The station of 'self' varies according to the evolutionary status of the individual. The 'self' may get stuck at extreme points of different lobes, different planes or even in subcortical areas and may start expressing through the infrastructure of the very region. It explains different kinds of extremism. Self-deception begins when the 'self' is consciously involved in the slope without being aware of its slippery and extreme nature. It justifies its purpose from a falls sense of spatiotemporal preception. The self is not aware that every door of the system is open. Neither it is capable of freeing itself from the stuck position. Sadism is transpersonal. Others' misery and pain stimulate the pleasure centres of the person, The deception of 'self' in others is one of the causes which can account for it. Terrorism is a combination of the three : extremism, self-deception and sadism.

Chapter 20

Integrated Cracked Brain Syndrome
Learn to get along with
Supracortical Consciousness

The milestones described in the previous chapter are experienced by a biologically integrated brain. When the iron gate of the mind melts, when the information processing system of the brain is consciously opened to the Essence of the Multiversity, even then it is not easy to get along with such openness without having a biological integrity. The 'self' learns to experience supracortical consciousness by training and educating its infrastructure. During this learning phase, the brain passes through a set of apparent absence of orders, followed by self-organization to build up a new order. It is designated as *integrated cracked brain syndrome.* Cracked, because the components of the brain, the information processing system and the responsivity organ, apparently fall apart. Integrated, because without this integration being there, the process cannot be visualised objectively and the parts cannot be reorganized in a new manner.

The Definition

Space and time are products of the mind. Supracortical opening dissolves space time. This dissolution of old space time is 'dangerous' from personal and interpersonal point of view. Every cell, tissue, organ, system is tossed between life and death. The 'self' faces a new 'geosyncline' on the earthly brain.

The constellation of brain 'dysfunction', during initial phase of Transformation when the a) 'self' is being tossed between old and new but yet incomplete, conscious centres and b) the 'nature' wanders in the boundary zone between sanity and insanity, the boundary being enlightened by integrity - is what can be described as *integrated cracked brain syndrome.* Focal palpation of the brain in such individuals offers a cracked response. The global response is a brilliant integration.

The Basic Nature of the Process

Though the words like 'disorder', 'dysfunction' have been used to describe the process, at the outset it must be told that the process is not pathological. It is the loss of integrity which makes a process pathological. Here, integrity is the pivot and the process is absolutely physiological - a realm of physiology, which was hitherto unexplored.

This 'up' and 'down' process is 'strange'! The dynamicity and progressiveness are its 'charm'. Integrity is the sole biological 'truth'. The 'beauty' of this process is its spontaneous transit, utilizing all and every available resource, to a new, complex higher order which is biologically purposeful both from individual and universal point of view.

Following supracortical opening, the whole unconscious gains access to consciousness. The awesome fifty billion neurons of cerebral cortex, each having ten thousand connections, each synapse firing forty to thousand times per second, are open to the Interuniversal Essence.

Then the brain has to adapt to it. One of the most important features of biological adaptation is that it tends to be accretive. The organs which were supporting breathing, eating and simple vocalisation in lower animals, have developed in man for speech, music and theatrical expression of emotion and feelings! Similarly, the brain which before supracortical opening, had remained busy in information processing and responsivity of petty nature, gets adapted as the sounding board for Mother Nature. So during the process, an optimization of the trade off between determination and flexibility is conspicuous.

The functions of the huge awesome 'unconscious', which have been crossing the threshold of consciousness, are edited, scrutinized, censored in context of the Interuniversal Essence before they are offered autonomy, thus ensuring their accountability to the Whole. There is a very, very gradual development of a new 'global workspace' for decision making, context setting, prioritization in new dimensions, concomitant with self-monitoring and autoprogramming. The process of self-organization continues under the unviolable 'umbrella', the context set by Mother Nature.

The Components of the Syndrome

The following are the components of the syndrome.

1. Purge of Nature.
2. Some 'peculiar' sensations.
3. Inertia of body, mind and intellect.
4. Erraticness of several autonomic foci guarded by self-consciousness.
5. 'Disturbed' higher functions of the brain.
6. Identity problems.

1. Purge of Nature :

The 'self' experiences the holograph from womb to tomb. Whole phylogeny of sex and ego are experienced. The beauty and bliss are conspicuous by their absence. The neural machinery in the downstairs modular cortex responsible for sex and ego screams. The 'self' is helpless to do anything on it. (see also *The Dynamic Web of Supracortical Consciousness*, Chapter 6).

What to Do ?

By this time, one knows what is 'witness consciousness'. One takes help of it. For every transition in planes of consciousness, a reorganization of the nature is a must. Surprisingly, it happens automatically, provided one is integrated.

Prevention

Primary prevention	Integration. Prior education.
Secondary Prevention	To live in isolation.
Tertiary prevention	Rehabilitation. Selfless service to the humanity.

2. Peculiar Sensations :

Of many peculiar sensations, four are worth mentioning.

1. As if one is suspended from above by a thread fixed at the centre of the head (surface marking of paracentral lobule).
2. A number of endless arrows piercing through scalp and the vortex.
3. A vertical traction, from above, on the spine.
4. As if one is on a air plane, eight to ten kilometers above the ground. The structures on the ground appear very very tiny and toy-like.

These are all transient phenomena, and one need not be bogged down by those.

3. Inertia :

There is inertia of body, mind and intellect.

Some Examples :

Physical inertia:	Long rest, heaviness of the body, dragging sensation in legs.
Mental inertia:	There is inertia of thought. Imagination, anticipation are difficult. Even more difficult is to plan anything.
Intellectual inertia:	Poor performance in I.Q. Test. Long latent period in intellectual activity.

Why does it happen ?

This is because of readjustment and realignment of Consciousness-Antematter meridia. It involves the psyche as well as the soma, neuron as well as the target cell.

What to do ?

Self-help is the best help. Don't beg, borrow or steal. Stand on your own feet. Cook your own food. Wash your own clothes. Spend time on gardening. Do as much as you can.

Prevention

Primary -	Prior education.
Secondary -	Self help.
Tertiary -	Initiate those aspects of body, mind, intellect which have temporarily become inert.

4. Autonomic Foci :

Gradually one observes that there are several autonomic activities which are happening without self's concern, irrespective of one's approval, disregarding one's powerful 'No'. It is very difficult to bring them in central alignment till they exhaust completely. The self-consciousness guards them from supernal light. They are all transient. They will exhaust in due course.

5. 'Disturbed' Higher Functions :

The new cortical dynamics temporarily upsets the higher functions of the nervous system.

Biological clock (e.g. that in suprachiasmatic nuclei) is distrubed. As the time-sense is reset, there is serious reform on various diurnal rhythms. Sleep rhythm is disturbed. In the absorbed state, the person loses track of time.

As the space-sense is reset, the spectrum of perception, imagery, appears endless.

There is remarkable *day dreaming.*

There is a surge of creative activity. The approach shifts from micro to 'macro', from 'macro' to 'mega' and like such. Interdisciplinary synthesis is remarkable. There is remarkable context-sensitivity and great relational capacity. Autopoietic self-organization is very conspicuous.

To learn a new thing is difficult. The speed is slow. The process is prone to error and vulnerable to interference. The brain appears computationally inefficient. There is remarkable fall, in the initial phases, in the capacity to process in parallel. The seriality or streaming is fascinating. Gradually, the parallel processing also becomes remarkable.

Recall of procedural memory is difficult. Episodic memory shines vividly. Short term memory is reduced to a bare minimum.

Paradoxically, there is inability to concentrate i.e. there is loss of control of access to consciousness. But as a part of autopoiesis, when concentration falls on any object, there is hundred per cent absorption.

There is also transient left-right transversion, meaning the left brain behaves like right and the right as left.

6. Identity Problem :

Following supracortical opening, there is existential lysis. The building blocks of complex and intricately organized five traits of nature (Love, Sex, Ego, Life, Death) and four expressive routes of character (Emotional, Intellectual, Mystical and Executive) fall apart. There is identity crisis. Following observations are worth mentioning.

a. There are multiple 'selves' inside. Some of them are stimulating, a few are depressing but a number of them are embarrassing. There is an identity problem.

b. There are multiple inner speeches. Each 'self' has its own demands. One's demand is not in harmony with that of other. A badly governed kingdom, riddles with civil wars. Trade unionism in army. One is surprised how one was so secured amongst them, so far.

c. One is full inside. Full with dirt and filth. Full with essence and enamour.

d. There is a continuous flux inside. Vicissitudes are frequent. Upheavals are quite often. There is glaciation, volcanic eruption which are unpredictable and definitely uncontrollable.

e. There is a conspicuous flux from outside too. A good number of thoughts, feelings and vibrations are in fact, invasion from outside (see, interactive creativity in page 51).

Differential Diagnosis :

Multiple personality disorder : Like multiple personality disorder, there is measurable shift in certain physiologic parameters like E.E.G, acuity of vision, immunologic and allergic profiles inspite of constancy of genetic quota. Prof. Putnam has said, through MPD 'one gets a window into organization of consciousness'. Unlike MPD, here, there is continuity of autobiographical experiences and there is an unviolable umbrella of goal context.

What to do ?

This period is more or less prolonged. It demands unreserved self-consecration in isolation. During this phase transition, a resolution has to be passed so that the rejection is conscious and critical, the sacrifice is acceptable and the 'autopoeitic' self-organization in chosen direction is active and total.

Self-Organization in an Open System

The feature described above vary in intensity and duration from person to person. Qualitative difference could also appear and that may open up a new frontier for research.

The point which I want to emphasize is that there is self-organization following a devastation, when one remains open, open to the cosmic and supracosmic currents.

Examples of Self-Organizations in Nature

A. In Living forms : Pattern in butterfly wing, in peacock's feather.

B. In large scale structures : Galaxy.

C. In Material science :
   i. Formation of diamonds in oxyacetylene torch.
   ii. Making buckminster fullerence (C-60) in simple carbon arc.
   iii. Self assembly of molybdenum atoms into cubes.

One sees personification of Prof. Illya Prigogine's observations in one's own life. One sees how orders are built-up after elimination of chaos. How new, higher and more complex orders are formed following grave chaos. 'Autopoietic' self-organization in thermodynamically open

system happens not only in individual cell but also in every organ, system, the body, mind and the soul, and the being as a whole.

Isolation, observance of silence, adequate rest, noninterferring environment and light food are advised in this phase. Proper care is needed till a new order in space time is formed. New mental apparatus or Mind will definitely form with new orientation of modular downstairs of cerebral cortex towards S.C.C. If you are lucky to have such experiences, *do not land up in a psychiatry department*. Have patience. You are chosen by the Divine for a great job on this earth for the Divine Materialism.

Sri Aurobindo's Four Aids for Yogis

In this phase of synthesis, Sri Aurobindo's 'four aids' are extremely useful.

1. **Shastra :**

Different aspects of multiple scriptures to support emotional, intellectual and mystical autopoiesis.

2. **Utsaha :**

The yearning of soul to realign the cracked parts of the brain.

3. **Guru :**

The inner guide or a living supracortical autonomy exemplifying certainty.

4. **Kala :**

Time is recognized as an enemy offering resistance only to egoistic mind. For a conscious person, Time is an instrument in the hands of Divine.

The Essential Bioenergy

In the *Dynamic Web of Supracortical Consciousness*, Chapter 9 (Fig. 9.3) we have seen that there are neural basis of love, genetic basis of love and gonadal basis of love. During transformation, gonads are the organ, next to the brain, which bear the brunt of the episodes, externalized by tremendous increase in semen production in male and precious genital discharge in female. The 'holy' man (or woman) in early phase of Descent does not have a depotentiated sexual activity. In fact, it is much more. Integration, observance of values, morality, clean sexual habits, previous ritual of restrain, help him (her) to transform this volcanic eruption into an integrated creative activity.

The gonads and other necessary reproductive organs produce numerous chemicals (neuropeptide, growth factor*) which, through nerve endings, are retrogradely transported in the perikaryon of neurons. They are also absorbed in the circulating plasma, which bathes all the tissues of the body including all nerve endings at various sites of the body and also the neurons and synapses in the nervous system.

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*Nerve growth factor has been demonstrated in bovine semen (G. P. Herper et al, J. Biol. Chem. 257:8541,(1982). Guineapig prostate is also found to be rich source of nerve growth factor (Nature, 279:160,1979). Epidermal growth factor like activity has already been demonstrated in human semen, 5-150 ng Eq/ml by S.D. Elson et al, J. Clin. Endocr. Metab, 58, 584-594,1984.

Following supracortical opening, there is quantitative outburst of this biochemical materials. There may be qualitative changes too. Biochemistry and molecular biology of gonads during this phase of transformation is a research frontier. The reproductive organ produces the 'fuel', under instruction of BIC. The BIC, in turn, matures from nourishment by reproductive essence. *The molecular biology in the most sensitive area of Biological Integration Centre is intimately related to the molecular biology of the gonads and accessory reproductive organs.*

Not the End

The Supracortical opening is not the end. It is the beginning of a new kind of humanity - a new species, in new direction. One can feel, even though there is no guru, no guide, no philosopher, no friend, one is 'forced' to flow like a river without a given plan, or programme or even a known destiny. One is also pretty certain that one has been taken towards Immortality, Eternity, Infinity and Ananda.

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Chapter 21

Ascension Transcension Transformation and New Formation Time Space Cause Ananda

Time, space, cause and ananda should not be seen in isolation. When the human brain achieves such a capacity not seeing them in isolation, then it finds them interlinked with the process of ascension, transcension, transformation and new formation.

In the phenomenon of ascension, there is a 'competetion' with time. The 'competition' with time and space is found in the phenomenon of transcension. Following transcension of time and space, during transformation there is a 'competetion' between causes to merge with Mother Nature. Ananda is the cause of new creation.

During transcension, space, time melt into *spacetime,* meaning 'space' could not be perceived without concomitant perception of 'time' and vice versa. The key for transformation is Mother Nature. When one's nature becomes Mother Nature, one is consciousness. In such state, all four melt into one - *spacetimecauseananda*. The element of ananda manifests as creative force.

The Interrelationship

To go beyond time, one needs faith. One comes across stillness. If successful to cross stillness, one's nature achieves equanimity and becomes eternal. To go beyond space, one needs devotion. One comes across emptiness. If successful to cross the emptiness, one's nature is secured. It achieves fearlessness and becomes infinite. To go beyond cause one needs Love. One comes across silence. Successfully crossing the silence, nature learns harmony. It achieves peace and becomes Immortal. The play of immortal, infinite and eternal nature, with consciousness results in Ananda - the cause of new formation.

To Go Beyond	One Needs	One Crosses	The Nature Achieves	The Nature Becomes
Time	Faith	Stillness	Equanimity	Eternal
Space	Devotion	Emptiness	Security	Infinite
Cause	Love	Silence	Peace	Immortal

Sensory and Extrasensory Perceptions

The time and space, are in the domain of Mind. The cause and ananda are beyond mind. The sensation is bound by space and time. The extrasensory perception is beyond space and time. The sensory perception could not be isolated from extrasensory perception. That is the reason why extrasensory perception also influences the sensory apparatus. The perceptions of time and space is a 'sensory' phenomenon. The cause and ananda are 'extrasensory' perception. In the Akhanda Paradigm, the extrasensory perception is a result of supracortico-corticolimbic interaction. In the dynamics of brain function, this amounts to elevation of biological consciousness to supracortical domain in an integrated way.

The Perception of Ghost

The ghost is perceived at a specific phase of brain dynamics. When the old mind is devastated and a new one is yet to be formed, the apparatus for perception recognizes ghosts.

The ghost appears when one chooses to describe a supracortical perception through devastated senses. The 'sense' of time dissolves but the supracortical perception of time remains. It appears as ghost of Time. The 'sense' of space dissolves but the supracortical perception of space remains. It appears as ghost of Space.

The regeneration of sensory apparatus in the brain begins with physical touch of Mother Nature. When the regeneration is completed in supracortical parlance, the ghost ceases to exist and the mind becomes vehicle of consciousness.

Ghost is there, Ghost is not !
In this Paradox, You are caught.
So many writers describe them
As hungry soul of death-past man.
Ghost is there, as the states of Brain,
You know that. Be free of strain.

Four Processes from Six different View Points

Ascension, Transcension, Transformation and New Formation are experienced by the human brain in the human body on this chosen planet earth, the 'heart' of the solar system. The processes occur along the intertwining spirals (chapter 28) and are difficult to describe separately. However, they could be looked from six different view points as laid down in the following table.

View Point	Acension	Transcension	Transformation	New Formation
Travel by a spaceship	From the planet earth to the edge of galaxy	Intergalactic nebulae	At the edge of the Universe	In the Essence of the Multiversity
In relation to Space Time Physics	Integration of Time (and Space)	Integration of Void	Integration of Cause	Ananda creates New Space New Time
The station of 'Self' in human Brain	Downstairs Modular Cortex	Upstair Supramodular Cortex	Edge of the Cortex	On the top of the Brain
In relation to transcendental Core	Limited by inner frequency Zone	Between inner hologram and outer holoflux	Outer Tunnel and Spaceless Vast	Spaceless Vast and The Essence
In relation to Life and Death	Leads to end of intellectual life. Intellectual Death.	Leads to end of Mind. Mental Death.	Death of small 'i'	Formation of new 'i', new mind, new intellect.
Primary Element	Individualism	Universalism	Nature to Mother Nature	Consciousness-Mother Nature

Individualism and Ascension, Universalism and Transcension, Mother Nature and Transformation, the Essence and New Formation

> "The individual exists only in the connections that leads to the universal. The universal exists only in the individual through the individual. Every individual is (in one way or other) a universal. Every universal is a fragment or an aspect (or the essence) of an individual. Every universal only approximately embraces all the individual objects. Every individual enters incompletely into the universal etc., etc."
>
> – Lenin, collected works of, 38, P, 359.

In the Akhanda Paradigm, we will start from consciousness. The self-consciousness inside the brain and the consciousness outside the brain are united and separated by two concentric spheres : the inner sphere of individualism and the outer sphere of universalism.

The cortico-supracortical junction is transformational zone, the zone of Mother Nature. Neurological substrate for individualism is self-consciousness of modular cortex (lower three layers) and that for universalism is self-consciousness of supramodular cortex (upper three layers of cerebral cortex).

The self-consciousness evolves from the phylogenetically old sixth cortical layer to the phylogenetically new first cortical layer. Then it grows beyond individualism and universalism to the Mother Nature-Consciousness domain.

Individualistic growth is ascension. From individualism to universalism, the growth process is transcension. The process of transformation happens beyond universalism in the Mother Nature-Consciousness domain. If a welcome back is permitted a new Individualism ushers the new formation. The process of transformation is multidimensional and multidirectional. The new formation offers the direction and requirements for further advancement.

Transcension and Transformation Compared

Transcension	**Transformation**
A journey from individualism to universalism.	A journey from universalism to Mother Nature-Consciousness and back to universalism and individualism.
Unidirectional. It is ascension through void.	Multidirectional, multidimensional. An element of Descent is always there.
A 'competetion' with 'space' and 'time'.	A 'competetion' between 'causes'.
Void is not 'perforated' through.	Transformation begins following perforation of void.
Space and time becomes 'spacetime'	Space, time, cause meet with ananda.
No creation.	Creative emergence. (New creation is a further step ahead).

Only individualism is a system which is closed. Only universalism emphasizes openness. The new individualism born following conscious unification with the Essence of the Multiversity is Akhandification. Individualism cannot exude true universalism until one is exposed to and establishes permanent connection with an inexhaustible source (the T.E.), until one's neural infrastructure becomes totally conducive to expression of the T.E. On the other hand, the inexhaustible consciousness could not be personified till the neurological pleasure triangle (NPT) is made accessible to it.

The new individual who possesses all three elements of individualism, universalism and consciousness is called Akhanda (in-dividual; not-divisible; A-khanda). Here, the 'self' in the individual, the 'self' in the universe and the consciousness are identical. The self-love radiates through 'self', for the 'self'.

All khandas are really A-khanda.
The Essence of this Brahamanda.

Seven Steps towards New Formation

New Formation is the cardinal characteristic of the Akhanda Paradigm. New humanity, a new species on this planet, new economics, a new society, new politics, new science, a new

religion are not mouthful words but are the reality for the Akhanda Paradigm. New Formation is initiated by human beings who have experienced the above mentioned four processes and three important landmarks of phase transition in between. The phase-transition from Ascension to Transcension is marked by Biological Integration, from Transcension to Transformation by Surrender to Mother Nature and from Transformation to New Formation by Supreme Consummation. So, the seven steps towards New Formation are as follows:

Step / Process	**Important Landmarks During Phase Transition**
1. Ascension	
	2. Biological Integration
3. Transcension	
	4. Surrender to Mother Nature
5. Transformation	
	6. Supreme Consummation
7. New Formation	

Pull up those Who are stuck during Journey

There are people who get stuck at different phases during their pursuit for the Truth. Many of them have worked beyond Time. Many, too, have gained autonomy over Space and established world-wide Institutes for advanced studies. Many of them have not understood the very purpose or the 'meaning' of the existence and during competetion with causes, have been lost in the spaceless Vast and timeless Eternity. One of the purposes of this write up is to awaken those who are stuck in their way and to inspire them to begin their onward journey once again and to stop not till one's nature becomes Mother Nature.

Space Time concept in Health and Disease

This chapter has prepared a background for dealing with the process of Transformation in greater detail. That we will do in the next chapter. Before doing so, we like to have a glance on the other side of the spectrum, the disease.

In the near future, the health and disease will be looked at from the space time concept of organization which serves a purpose, (the cause). The disease or anomaly is due to a disturbance in space and /or time and / or purpose (cause). The purpose is in the genetic programming of the cell and to serve the purpose, the organelles, acquire a unique spatiotemporal organization. Even in the organelles, the enzymes and / or DNA observe a temporal sequence in space. The cascade like biochemical pathways inside the cell, Prostaglandin, Kinin, Coagulation and Fibrinolytic pathways outside the cells, the cell signalling and signal transduction, all have a spatiotemporal relationship. Spatiotemporal distribution of enzymes in different organelles and in different phases is remarkably important for maintenance of health.

The disturbance in space, time, purpose runs through a spectrum, from minor reversible disturbance to a major disintegration. Disintegration makes the process irreversible (e.g. irreversible circulatory shock, malignant transformation, decompensation of end stage renal or hepatic failure etc.). Disintegration is the cause of insanity and integration is the sine qua non for sanity.

The removal of the cause of the disturbance and the restoration of organizational purpose is the therapeutic goal. The role of finer chemicals (Homeopathic medicine), plant products (Ayurveda) and the role of application of high energy physics (future medicine), in this context, are worthy for research.

The Negative side of the Story in Disease

When a person becomes sick, or an organ becomes diseased, we can see the unfolding of this process in a reverse way. We will take two examples; pathology of infectious diseases and pathology of growth disorders.

Pathology of Infection :

During acute infection, the organism enters and multiplies in the body. The homeostatic mechanism and the infectious agents compete with time. If the latter win, infection is established. The competetion with 'space' starts, and the infection spreads. When the defence mechanisms at different spatial strategy fail, there is pyemia, septicemia. This may lead to death of the patient and putting a full stop in the further spread of the organism to another living being. The very purpose of the infectious organism is defeated.

Take an example from chronic infection - Leprosy. A long incubation period following entry of the organism. A competetion with time, - ascension, the establishment of disease. During transcension, the immune apparatus and the hypersensitive reaction swing between extreme poles. The disease status also dwindles around borderline leprosy along a spectrum of (BT-BB-BL-LLs). If transformation on negative side is the outcome, one lands up with polar lepromatous leprosy. An almost similar phenomenon is also demonstrated in leishmaniasis.

Course of Leprosy in term of Space Time and Cause

A.	1.	Entry of organism	
	2.	Indeterminate leprosy	**Ascension**
	3.	Tuberculoid leprosy (TT)	
B.	1.	Borderline tuberculoid (BT)	
	2.	Borderline borderline (BB)	**Transcension**
	3.	Borderline lepromatous (BL)	
	4.	Lepromatous leprosy, subpolar (LPs)	
C.	1.	Lepromatous leprosy polar (LL_P)	**Transformation**

Pathology of Growth Disorder

When the tissue starts sensing time in advance, there is hyperplasia. It defeats time, gains an autonomy over time and then starts competing with space. It expands. The expansile growth is characteristic of benign neoplasia. Eventually, it defeats the very purpose of its own space-sensing faculty and starts infiltrating around. The continued space hunger leads to detachment from the parent tissue and the whole universe is the space then. There is metastasis. If the cells comprising the tissue, look back at its total gene quota obtained from its great grandparents, the totipotent ancestors and try to unfold those which were hitherto suppressed to serve a purpose, functional abnormalities get manifested. The very purpose of existence is defeated. There is not ananda - but a mad ecstasy. Mad in the sense that it is purposeless, it cannot be shared with its colleagues, the context of its existence is ignored and it does not thrill the Whole. In pathology, the whole process is called malignant transformation.

From Normal to Malignant Cell

Ascension. Competetion with time. Hyperplasia.

Phase Transition :

a. Defeats time.

b. Gains autonomy over time.

Transcension. Competetion with space. Benign Neoplasia.

Phase Transition :

a. Defeats space sensing faculty.

b. Gains autonomy over space.

Transformation. Competetion with cause. Malignant Neoplasia.

Malignant cell :

a. Gains autonomy over causes.

b. Defeats its own purpose.

c. Cannot share its ecstasy with others.

d. Does not thrill the Whole.

Chapter 22

The Process of Transformation

Defining Transformation

Transformation is a process of establishing new space time following dissolution of an old one without defeating the very purpose of the infrastructure of the latter. Instead, the purposal 'seed' is being utilized in an intelligently unpredictable way to the extent of the best of its abilities for the emergence of new qualities.

The unpredictability by the best of intelligence contributes to the element of uncertainty in the process.

The dissolution of old space time is so-called 'death'. The death has a positive role in the process of transformation. The death dies during the process. Infact, it is integrated in the whole process.

Space and time arranged in a particular pattern constitute a structure. Addition of 'purpose', the cause which it is meant for, determines the organization. With the same infrastructure, one may develop different organizations and the same purpose may be served through different structures. The 'openness' of the system to an outside world (one may read here, the Essence of the Multiversity), not only adds in its march towards perfection but also contributes autonomy to the perfected components. The transformation is a cascade of phenomena which makes deft use of the plasticity of the infrastructure (one may read here, the genes and the brain), for its natural drift towards perfection and in the process, it achieves the biological highest, becomes a Supracortical Autonomy.

The key point is the 'purpose'. The competetion amongst purposes is natural during the process. The Cause Immortality, i.e. Mother Nature, handles the conflict of purposes and She executes the 'inversion', so that the purposal seed is being utilized to the best of its abilities. This phenomenon of inversion continues till one's nature becomes Mother Nature.

The expression of this utilization of the purposal seed is remarkable in the sense that the phenomenon speaks of its origin. That the phenomenon expresses its fountain is a remarkable

sign of the process of transformation.

This multistep process of 'becoming' involves all four phenomenal hands of consciousness- Time, Space, Cause, Ananda. It 'perforates' through the Great Void and the seed is being scrutinized by Mother Nature for emergence of new qualities in concurrence with purity, perfection, harmony and bliss.

The process also has an element of irreversibility, the 'arrowed time' - meaning it is 'impossible' to come back to old space time from the new one.

The remarkable feature which adds to its ecstatic component is a definitive qualitative change, the emergence of new, even multiple qualities of higher, more complex, more organized order of relevance. There is much more integration, far more elevated awareness, more autonomy, subtler accountability and acquisition of sharper cognizing ability.

The whole scheme is utilitarian and serves a Great Need - the Necessity.

Some common Mistakes in Understanding the Process

1. During dissolution of old space time, old values also dissolve. It has been, by mistake, equated with disorder, chaos, anarchy, anaplasia. There is a world of difference between absence of an order and a presence of chaos.

"The term 'chaos' denotes persistent irregular behavior of a deterministic system (that is, one in which externally applied noise can be neglected)" (*Science 263: 1994; p 1569*). In chaos integrity is conspicuous by its absence whether it is in a small system with small number of degrees of freedom or in a large system which displays 'spatiotemporal chaos' where a large number of chaotic elements are distributed in space.

Because there is an arousal of consciousness at various planes, the prejudices may be mistaken for the truth, the myth for the history, terrorism for heroism, passion for reason, sex for superconsciousness, and self-seeking selfishness for self-awakening.

Irreversibility in chaos leads to death, annihilation. The concept of death dies when chaotic elements are eradicated and equanimity prevails. The new order cannot and does not come out of chaos. The order comes when the aspiration from below is united with a sanction from the above. In chaos, you rarely find this. If you find it, then that is not chaos at all.

'Noise', on the other hand, 'is an expression of the ignored and the unknown, of the irrelevant and the unvalued' (William Irwin Thompson). The initial event for an 'Order from Noise' (Heinz Von Foerster) is to choose right signal from Noise. For a new order to develop, one will prefer to listen to individual voices, to the hearing of an Institute or Organization in phase of 'breakdown' or 'fibrillation' (Hazel Henderson).

2. Emergence of a new order has been thought to be spontaneous. It is not totally so. There are three elements in this emergence.

   a. The aspiration to come out of the customary automation for submission to a higher discipline. If the desire is restricted only in coming out of existing automation without an aspiration for submission to a higher discipline, it could be labelled as 'fluctuation'.
   In the language of chemistry, aspiration is the feed forward signal.

b. The element of a formidable 'No', to eradicate the chaotic elements. It comes from above. In the language of chemistry it is the negative signal from the higher center in the hierarchy.

c. Finally, the sanction from above. It comes after thorough scrutiny by Mother Nature. In the language of chemistry, it may be called feed back positive signal.

The union of the 'aspiration' and the 'sanction' is the Supreme Consummation for the birth of a new order.

3. The vital role of Mother Nature in the process of transformation has been ignored by most of the scientists. Her domain is the Void. Without Her, there is no transformation. It is She who does the integration of three signals. It is She, who integrates 'death' in this process. It is She, who is responsible for '*inversion*'. She is also a *must* in the process of self-organization. She holds the key for transformation.

4. The absence of order and values is a temporary or transient phenomenon. This is a prerequisite for coming to the phase of equanimity. The equanimity is a prerequisite for emergence of new order, new values in concurrence with purity, perfection, harmony and bliss.

Differential Diagnosis

The transformation is not merely a 'change' from one state to another. It is not 'reform' or 'conversion' either. Neither the term 'metamorphosis' nor the term 'transmutation' can substitute for it. Five conditions are described below. Transcension and transformation have been contrasted and compared in the previous chapter. The comparison between Self-organization and Transformation has been considered below. Transformation and New Formation also have been discussed under this heading at the end.

1. Change :

During change there is reorientation of time and space. Usually it refers to a quantity. For example, change in mass (m), change in position (Q) or time (t), change of position with time (dq/dt), change of space per time (frequency), or change of velocity with time (dv/dt) etc. The change may also refer to quality. The qualitative change may be on either side of the spectrum, higher or lower, better or worse. The process is reversible and most transient of the five.

2. Reform :

Reform is more than 'change'. It is more widespread, more durable. But like change, it is also reversible. Unlike 'change', reform has a connotation always on the higher / better side. Though it brings an improvement of quality it cannot bring a new quality.

3. Conversion :

Like 'change' and 'reform', conversion is also non-transcendental. It may be on quantity (e.g., conversion of existing units to SI units) or may refer to quality. If it is a change of quality, it takes place within the same plane. A science postgraduate who does not get an appropriate job settles down to do business in cigarettes. Squamous epithelium becomes columnar

epithelium or a cartilage becomes bone (metaplasia, in cell biology). A Hindu after baptism becomes a Christian (religious convert).

As said, the process is not transcendental. It might have gone to the extent of reaching the Void but has come down without Lover's Kiss. The seed had not been open to the Transformative Essence (T.E.)

Also, the process might have served the immediate need (e.g., squamous metaplasia of bronchial epithelium or an increase in number of members of Christian community) but has not solved the perpetual problem. The process is not irrevocable either.

4. Transmutation, Chemical 'Transformation', Transdifferentiation :

They are one step ahead. Every second, one out of a million cells in human body undergoes spontaneous mutation. One in a million collisions between two different atoms in a reaction vessels is responsible for chemical 'transformation'. During transmutation of an element, the nuclear mass, proton number, undergo a quantitative change. The change in quantity in subatomic level can alter the quality altogether. The process brings out a complete qualitative change. But this event in the subatomic level happens without perforation of the Great Void. The Mother Nature is not directly involved in the process.

In cell biology, the process may be called transdifferentiation where the cell of one germ layer differentiates into a cell of another germ layer. The cell of ectodermal origin may transdifferentiate into cells of mesoderm or endoderm and vice versa.

The scheme does not come out with a durable ecstatic new and does not serve a Great Need.

5. Metamorphosis :

Metamorphosis is a one way journey to unfurl the hidden higher nature and infurling of once revealed but at present not usable lower nature. Explicate enfolding of lower nature and implicate dispersion of higher nature progress simultaneously during metamorphosis.

It is exemplified by the growth and development of a zygote to an adult. It is most pleasurable but not ecstatic. It is predictable by the intellect. Examples are metamorphosis of tadpole larva into a toad, from caterpillar to a butterfly syndrome.

Following a supracortical opening, the person undergoes a metamorphosis for becoming a supracortical being.

Differential Diagnosis :

The phase of descent in transformation has many similarities with metamorphosis. But in the process of transformation, 'ascent', 'void' and 'descent' happen simultaneously. The descent cannot be viewed as an isolated phase.

6. Transformation and Self-Organization :

Many scientists find it difficult to draw a distinction between self-organization and transformation. The scientists who propose Self-organization as a paradigm, see a cascade of transformations as components of self-organization process. Those who advocate the process of Transformation as the new paradigm, for them a series of self-organizations become the essential component of the process. In fact, self-organization in an ever-open system eventually leads to final transformation of one's nature into Mother Nature. During transformation of one's

nature into Mother Nature, the 'self' of self-organization process is the Being or Consciousness. The Akhanda Paradigm sees 'self' of self-organization as consciousness and observes transformation of one's nature into Mother Nature as the achievable highest in nature.

7. Transcension and Transformation :

Transcension and transformation have been contrasted and compared in the previous chapter (page 144).

8. Transformation and New Formation :

During transformation, there are multiple new emergences which should not be mistaken for new formation. Transformation is the process of becoming of nature along the hierarchy of beings. New formation is the result of the intrinsic play of the Being and Mother Nature. Though new formation is a further step ahead of transformation, it cannot occur bypassing even a bit of transformation. Illumination, intuition and revelations are examples of new emergence during transformation. The Ananda, during perforation of neurological pleasure triangle by supracortical consciousness (or, perforation of cosmological pleasure triangle by Love), initiates new formation.

Above Phenomena in relation to Different Voids

In the chapter one, in the model of the transcendental core, there are three voids: the apparent void (the uncertainty), the great void (the quantum vacuum) and the Divine void (the spaceless Vast of Sri Aurobindo). The process of Reform, Conversion, transmutation and transformation are related to three voids as described below.

I.	**No involvement of Void**	**Change**
II.	**Involvement of Apparent Void**	**Reform**
III.	**Involvement of Great Void**	
	A. Coming back to the same old Mechanics	**Transmutation Transdifferentiation**
IV.	**Penetration through Great Void and involvement of Divine Void**	
	A. Coming back to the same old Mechanics	**Transformation**
	B. Coming back with a different Mechanics	**New Formation**

Thoughts for the Cell Biologists

1. In cell biology, two occasions are worth mentioning when old space time are dissolved and a new one is established.
   a. Cell division.
   b. Fertilization of ovum by spermatozoon.

Neither of them is called transformation. In the first, one cell becomes two and in the second, two become one. The criteria laid down for transformation do not include such happenings.

2. There are two occasions when the term 'transformation' has been misused. One is in physiology (immunology) and one is in pathology.

a. In Immunology :

'Transformation' of B-lymphocyte into plasma cell and T-lymphocyte to a 'blast' which secretes a host of chemicals (lymphokines) respectively, are not really transformation. This is one way ontogenic journey of a cell following an immunological stimulus. In this respect, it is more close to metamorphosis than transformation. However, from the middle of the path, some cells go back, involute, and remain as 'memory cells' to respond to a second similar stimulus.

b. In Pathology :

Malignant transformation of a cell. This is an aberration, a pathology in the process of transformation. There is fluctuation, there is an aspiration to mimic others, but there is no aspiration for submission to a higher discipline. There is also no sanction from above. Clonality and autonomy are gained, avenues of some new functions are also opened up but also there is chaos, anaplasia and metastasis, which make the whole process malignant. There is no harmony, no perfection, no bliss. The whole process is purposeless and dangerous for the very survival of the system.

The Process of Becoming

The process of Becoming cannot be discussed without reference to the Great Chain of Being. The Transcendental Essence is hierarchically immanent. The 'evolution' from level one to level two, from level two to level three and like such, continues till finally one's nature becomes Mother Nature and the Being is Consciousness. The process of Becoming is a continuous process and it achieves its fulfillment in becoming Mother Nature. The apparent 'ontological discontinuity' is the result of our ignorance of the process of becoming.

The levels in the great chain of being are such that level two is more complex, more organized, more stable than level one. Similarly, level three is more complex, more organized, more stable than level two. As one goes higher, one finds more integration, more autonomy, subtler accountability, elevated awareness, and sharper cognizing ability. As there are biologization of tougher and tougher values, the accountability of the self to the Self is much more subtle. The chance of self-deception is less and less. Another noticeable event is 'a kind of transformation in relationships between elements'. 'When one goes from an elementary level of organization to a more integrated level, ... the very same features which help distinguishing the entities, become the origin of the bond uniting them' (Henri Atlan). So, there is a qualitative change from level to level. New quality, even multiple qualities appear in every higher level. In reference to quality, the higher comes through the lower, rests on the lower but does not come from the lower. All of the lower is in the higher but not vice versa (Ken Wilber). This emergence of new quality is one of the remarkable features of the process of Becoming and this happens in concurrence with purity, perfection, harmony and bliss.

Within a level, nature is more close to the Newtonian description - ordered, deterministic, reversible, complete, linear (where small inputs result in equivalent outcome) and near-equi-

librium. In between the levels / planes, nature is multidimensional. The interplane interaction is non-equivalent (Ken Wilber). The nature is also far from equilibrium and nonlinear, meaning a small input can result in unpredictable huge outcome (Prof. Prigogine).

During the process of Becoming from one level to higher level there are multiple phases and phase transitions. The paradoxes are resolved during phase transition. For convenience, we have delineated three* consecutive phases - the phase of Ascent, the phase of Void and the phase of Descent (Fig. 22.1).

Ascent	**Void**	**Descent**
Stable	Unstable	More stable
Ordered	Absence of order	More organized
Uniform	Nonuniform	More uniform
Linear	Nonlinear	More linear
Near equilibrium	Far from equilibrium	Near equilibrium

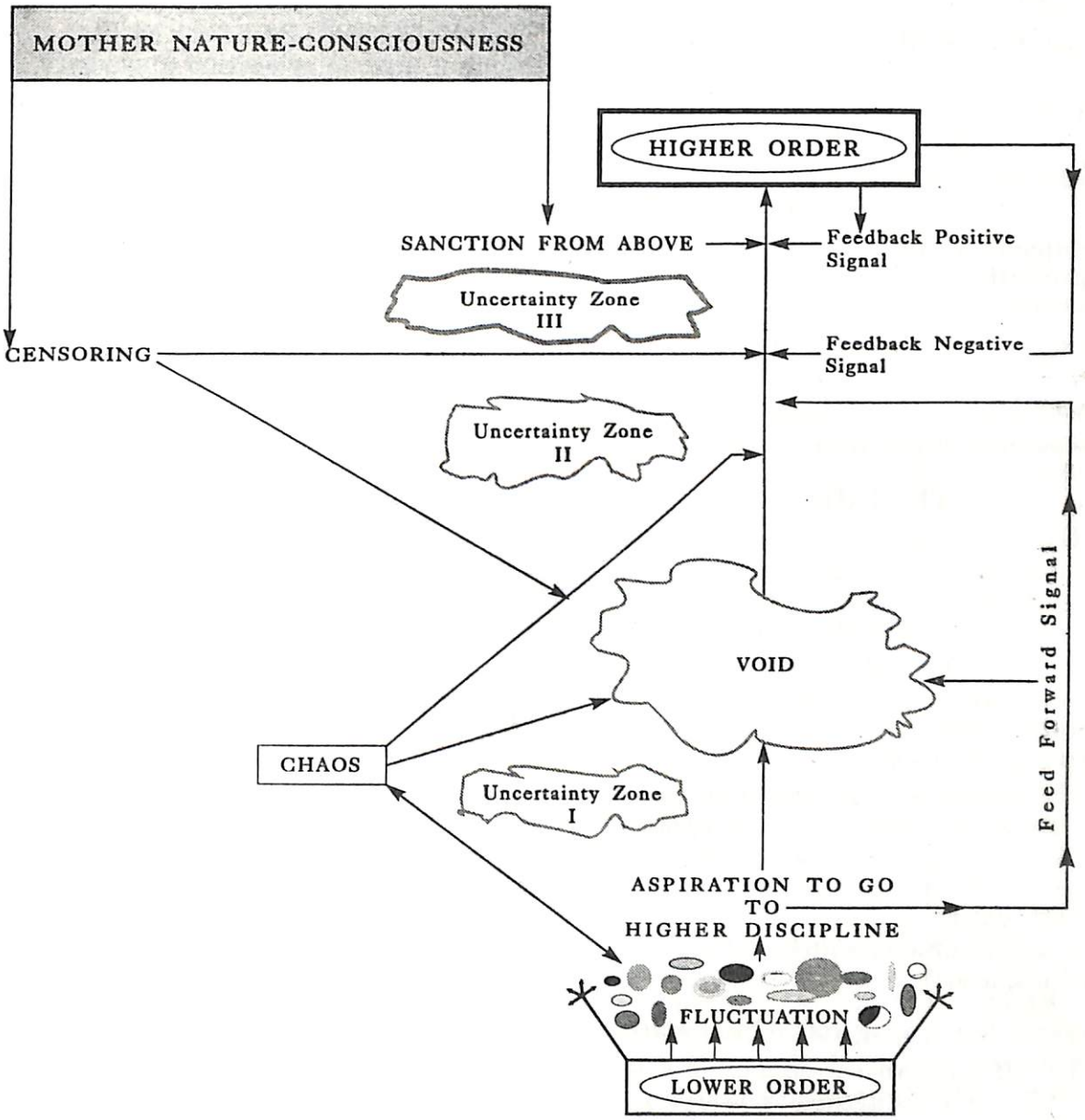
To start with the phase of ascent there is fluctuation - a wish to come out of the customary automation of an organized, deterministic, reversible, complete world. Life is a struggle then, obeying Darwinian laws. The existing order gradually breaks down, the initial conditions are forgotten, dissipation of energy continues, irreversibility is established and the entropy mounts up. The signals which feed forward, are sent continuously to contact the Higher, an appeal for submission to a higher discipline. The initial achievement in such successful struggle is the loss of every preexisting norms - a state of nothingness.

There are numerous bifurcation points. There are points crossing through which one enters the zone of anarchy, chaos, anaplasia, disorder. The element of disorder, chaos, anaplasia could be eradicated by the negative signal from the 'Higher', — a formidable 'No' from above. 'Conscious critical rejection' as advocated by Sir John C. Eccles and Karl R. Popper pertain to this phase. The religious discipline advocates necessity of imperishable faith, unswerving devotion and stainless love in this phase to prevent being swept away at the bifurcation points. Life is neither Darwinian nor Lamarckian.

There are three uncertainty zones (Fig. 22.1). Pre-void uncertainty is during fluctuation, chaos, ascent of the aspiration. The first post-void uncertainty is during further tunnellization. The censor-sword of Mother Nature hangs over the head. The final uncertainty is about whether the sanction from above would come or not!

The phase transition from this phase of Void to the phase of descent needs an active complete, unconditional *surrender* to the Higher. The positive feed back signal from the higher signifies sanction. There is descent of the Higher and a conscious total acceptance by the lower (the Supreme Consummation, Sri Aurobindo). The life followed is Lamarckian, a grand influence of the 'Higher environment'. *The quality of the Descent depends on the infrastructure one possesses. The quantity of the Descent is proportional to the degree of self-opening.*

* The reader is also requested to go through the three-zones of Transition, (namely the breakdown zone, the Fibrillation zone and the Breakthrough zone) of Hazel Henderson.



The Process of Transformation
FIG. 22.1

Characteristics of Three Phases of Transformation

Characteristic	Ascent	Void	Descent
Most important signal	Feed Forward	'No' from the Higher. Censoring	Feed back positive. Sanction from above
Relation to equilibrium	Moving away from equilibrium	Farthest from equilibrium	Moving towards equilibrium
Order and values	Gradual dissolution of order and values	Absence of order and values	Generation of new order and values
Advice to avoid bifurcation cascade	Austerity	'Conscious critical rejection'	Total unconditional acceptance of the Higher
Life	Darwinian	Non-Darwinian. Non-Lamarckian	Lamrackian

This whole scheme of Becoming, has been designated in the *Dynamic Web of Supracortical Consciousness*, as the Akhanda Scheme of Transformation (Chapter 6).

The Bifurcation Cascade. Origin of Diversities

The transformation in nature continues following the hierarchy of the Great Chain of Being. The whole process of transformation is supervised by Mother Nature, the executive front of Consciousness. It is She who integrates the different signals. It is She who eradicates the chaotic element. It is She who scrutinizes the genes, the seeds, to decide whether they are worthy of having a transformation.

Still, there is a relative freedom. She has offered multiple choices to the lower natures. Bifurcation cascade is the cost of this freedom She has to pay. It is for this freedom that She suffers from the phobia of uncertainty (whether Her children will come back or not !).

The journey through bifurcation cascade begins when the 'Higher' does not belong to the Great Chain of Being and is not representative of central hierarchical axis. As a result of bifurcation, we get birds, not mammals, we get prophets but not Sadguru, we get particle physicists, not Max Planck or Einstein, we get different 'pundits' but not an integrated manhood. We do not get a basic doctor but a superspecialist who stiches the hole in the heart and needs consultation with his colleague for his own son when he suffers from diarrhea during eruption of teeth !

Pathological Aberrations in the Process of Becoming

1. If fluctuations continue in absence of a definite feed forward signal, chaos originates. If there is no aspiration for submission to higher discipline, absence of order bifurcates into presence of disorder, indiscipline. Irreversibility in chaos leads to annihilation. So, if not immediately cut off by a thundering 'No', and not given a definite direction, the situation worsens. The civil war breaks out.
2. The aspiration is there. There is no chaos. But the sanction from above has not come.

a. One is caught up in silence, stillness, emptiness and nothingness.
b. It may take up any of the following directions in course of time.
   i. It may come back without Lover's kiss as a convert, as metaplasia.
   ii. It may undergo mutation or transdifferentiation.
   iii. It may remain dormant for years as preneoplastic conditions.
   iv. It may step down as in-situ cancer, invading cancer and may eventually spread and produce metastasis.

3. Bifurcation with consent of Mother Nature is the root cause of diversity. It is Divine's problem, and strictly, is not pathological.

Transformation and Divine Materialism

The process of transformation involving the Void and Mother Nature results in Diving materialism. May the process be in the subatomic level, 'macro' or 'mega' level, or in a biological system, the result is only one, the Divine Materialism. It is not a recent phenomenon. It had happened several times in the past, it has been happening at present and it will continue in future. What is recent, is the elevated awareness of human brains which are taking a conscious note of it. The contagiousness of the process is responsible for its higher incidence and prevalence.

Differential Diagnosis :

Dialectical Materialism and Divine Materialism :

Here it is relevant to contrast and compare the Divine Materialism and Dialectical Materialism.

> "Dialectics in the proper sense is the study of contradiction in the very essence of object."
>
> - V. I. Lenin.

But the reality is that contradiction is not the only relationship of the opposites. And in the very essence of the object, contradiction is not the only observable phenomena. The polar opposites with only a contradiction, left to themselves, lead only to disaster. At the subatomic level, when positron and electron meet or proton and antiproton shake hands, the result is only gamma rays. Inside the atom there is not only contradiction of opposites but also there are neutrons, neutrino, meson etc. There exist massless particles which do not have a polar opposite. Contradiction, however is one of the apparently useful need in an organization. But to get the best out of contradictory opposites they need to be distanced (space and time) optimally for a purpose (cause) by a *third entity,* which will generate coherence out of contradiction and introduce an implicit order in the whole dynamics of their struggle. There is no mention of this third entity and of the purpose in dialectical materialism. This entity is Mother Nature, the executive front of Consciousness. It is She who decides the purpose.

In fact, all contradictions end in the Void, the domain of silence, stillness, emptiness and nothingness. Here is Mother Nature who holds the key for transformation. Dialectical materialism advocates transformation without involvement of Void. Transformation involving Void and Mother Nature results in Divine Materialism. The Divine intervention is essential for

Divine Materialism.

The meaning of Divine intervention and the executive skill of Mother Nature once unveiled by scientists, will be accepted as facts of life.

The Void and Mother Nature are also important in two other occasions. One is during biologization of values. The other is during conferring of physiological autonomy. The dialectical materialism is vague on those points.

The biologization of values is one of the prerequisites for the evolutionary process. Physical forces like electricity, gravity have been biologized (bioelectrics, biogravities). During the process of socialization in the animal kingdom, various norms, arbitrarily adopted once, get biologized over the generation. The biologized values are very stable because it results from a complex interaction of reasoning (cerebral cortex), feelings (limbic pleasure triangle), instincts (reticular core) and the Grace, i.e. Mother Nature. Dialectical materialism often talks of social values. But it is silent about their mode of biologization. Nonbiologized values are unstable, easily changeable and cannot withstand the play of forces during individual and social transformation. The Divine Materialism lays emphasis on biologized values. The dialectical materialism does not.

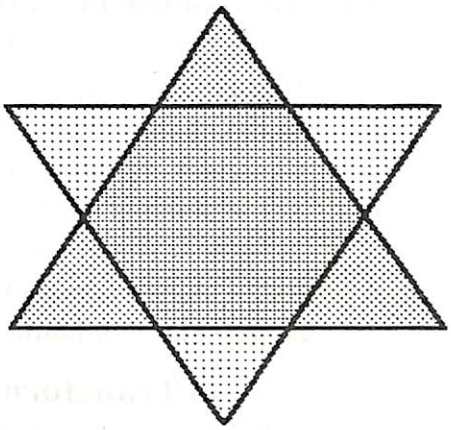
The other occasion where Mother Nature and Void are important is during conferring autonomy, with ensuring accountability for the harmony of the Whole. The autonomy is conferred to local units which have achieved perfection and are integrated enough to live in harmony with the Whole. The practical flexibility is maximum in this way. In biology, many systems have been given autonomy and the harmony of several such systems are maintained in the brain by intervention of Mother Nature. If the brain is a hologram interpreting a holographic universe, several brains can work together in harmony and peace only if the Mother Nature intervenes. Harmony of several holograms in the subatomic level are maintained by intervention of Mother Nature only.

The dialectical materialism being silent about Mother Nature cannot explain the phenomenon of transformation, the biologization of values and the confer of autonomy with ensuring accountability for the harmony of the Whole.

Dialectical Materialism	**Divine Materialism**
It is confined to contradiction in the very essence of the object.	It begins when the contradiction ends.
Advocates transformation without involvement of Void and Mother Nature.	The transformation always has a phase through Void and a phase of intervention by Mother Nature.
Silent about biologization of values.	Founded on biologization of values.
No scope for autonomy in apprehension of disharmony and disturbance of peace.	Scope for autonomy without disturbing harmony and peace is tremendous.
Durability, stability, flexibility are less.	Durability, stability and flexibility are maximum.

The Basis of Divine Materialism :

The Divine Materialism can be symbolized by two triangles, superimposed on each other from opposite directions.



Superimposition of two Triangles
FIG. 22.2

One represents top-down management and the other a bottom-up self-organization. The advocates of Dialectics may point it out as the subtlest way of bringing the contradictory opposites whereas in reality, it is not so. The two triangles are not in contradiction but are in Love. A top-down management system believes in hierarchy but left alone, cannot withstand revolutions from the lower level. A bottom-up organization remains topless for ever, and left alone, ends in its directionlessness. Love between the two, makes the basis of Divine Materialism. The double triangles can explain the simultaneity of hierarchy and holography, transcendence and immanence, verticals and horizontals. The basis of Divine Materialism remains in Love affair of the Neurological Pleasure Triangle inside the brain and Cosmological Pleasure Triangle outside it.

Quality Assurance during Transformation

The Nature has a rigorous quality control programme during the process of transformation. Like all quality assurance schemes, here also exist 'standard' and 'control' specimens. There are a subjective (internal) quality control scheme and an objective (external) quality assurance programme.

Accuracy control

Accuracy is the agreement of the result with it true value. Standards used for accuracy control are

Primary standard - The Reality
Secondary standard - The Sadguru

Accuracy control Programme :

Accuracy is controlled objectively by an objective (External) proficiency testing programme.

a. In the phase of acclivity - 'Natural' selection.
b. In the phase of Void - Thundering 'No' from above.
c. In the phase of descent - The recipient judges the quality.

Precision control

Precision is the agreement between replicate results.

'Control' used for precision control are

i. Supracortical beings.
ii. Top level experts in different fields.

Precision control Programme :

a. In the phase of acclivity :
   Observance of values in paradoxical situations; to buy time.

b. In the phase of Void :
   Conscious critical rejection.

c. In the phase of surrender :
   Totality, unconditionality and completeness of surrender.

d. In the phase of descent :
   Agreement with Mother Nature.

Is Transformation a Universal Phenomenon?

Supracortical transformation transcends all universal constants (e.g. Planck's constant, velocity of light, entropy barrier). In the very definition of transformation, the gravity, the spacetime, has been considered as dissolving and renewing. In the Akhanda Paradigm, every human being does possess the potential to evolve into a universe and supracortical transformation is a beginning of this universal process.

Is the process of transformation applicable to the universe itself? The universe is bound by space time. Dissolution of space time means dissolution of the universe. It does happen to the universe and it has been happening. On the other hand, when we talk about the everexpanding universe, we talk of creation of space time from 'no space, no time'. Dissolution of spacetime and generation of new space time have been happening in the universe simultaneously but at different ends. Dissolution, new creation and sustenance are the very characteristics of our universe.

The multidimensional interaction between the living universe and the human being undergoing supracortical transformation is one of the fascinating *research frontiers in the Akhanda Paradigm.*

The Akhanda Paradigm and the Gaia

GAIA is a Greek word for goddess of the Earth. The Essence of the GAIA Theory, originated by James E. Lovelock, is that the 'life by its very presence is apparently creating and maintaining, the special condition necessary for its own survival'. The biosphere of earth is a 'biological construct' of its life-forms. Within this life realm, every life is linked with every other. The problems encountered today is due to an assault on this life-support system. This has been happening due to a significant tilt in the attitude of human being towards exploitation of nature. Though 'the Industrial Revolution and all our modern age occupy less than the last thousandth of a second, yet in this fraction of time, the face of this planet has changed almost as much as in all aeons before'. The GAIA Theory is precise in cautioning that this is the time to make an 'about turn' if the planet and we need to survive in a better way. Here, it lays trust in the capacity of homosapiens whom 'the power of evolution has equipped to create their own planetary eco-system'.

Thus GAIA Theory is an excellent leap of human conscience in right direction. When the human conscience kisses the Essence of the Multiversity, one moves towards the Akhanda Paradigm. The conscience could continue to shape the destiny and the homosapiens could dare 'embarking on a new exciting phase of growth' only when there is biological integration of the individual being, being indivisible from the Whole. This biological integration is a very prerequisite to materialize the GAIA. The biological integration could not be achieved by amputating the spirit from the body. *The Akhanda Paradigm is the Universal Cathedral of Spirituality, Science and Humanity.* The Gaian executives respect pluralism. Designing a global 'think tank' is in their plan. Sensing the danger of genetic homogeneity, they do make effort to preserve biological diversity. The Akhanda Paradigm elevates this pluralism to the highest possible level of perception of the human brain, the infinite pluralism of the Universe, the Essence of the Multiversity. The respect for Mother GAIA, in the Akhanda Paradigm, culminates in *surrender* to Mother Nature through a cascade of inversions which we have described in this chapter as the process of Transformation.

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When Your Nature Becomes Mother Nature,
You are Consciousness.

PART - V

The Nature Revisited

"Doctors will have more times to answer for in the next world than even Generals."

– Napoleon Bonaparte.

Chapter 23

The Morality. Its Determinants

Where to Start from?

The philosopher Kant was confused about what one should call morality. The warrior Napoleon was not. For the discussion on a topic which is of utmost practical relevance, it is wiser to pick up the thread left by a warrior than that poorly knitted by a philosopher. Napoleon Bonaparte said, "*Everything unnatural is also immoral*".

Though he is silent about morality, he makes a smart beginning by defining immorality. There are two variables in his definition. 1. Nature. 2. Who is the authority to say that it is unnatural.

Spectrum of Nature

Throughout this work, we are investigating the entire spectrum of nature. The nature of a cell, tissue, organ, system and the being as a whole are under study. The nature of particle, antiparticle, of matter, antematter, of energy, forces and fields are also in the spectrum. We will revisit the nature of a cortical being in the following chapters.

The code of conduct differs because the nature is not identical in everyone. There exists a hierarchy in nature. The constitution, the rules, the governing principles of nature are hierarchically disposed. In cell biology, the nature of an intestinal epithelial cell, of a spermatogonium or oogonium, of a bone marrow stem cell, or of a Betz cell in the cerebral cortex could not be and are not identical. In the animal kingdom, nobody expects an identical moral code for reptiles, birds and mammals or even for the different members of the same species. On the other side, even a terrorist has his ethics, a prostitute has her morale and a malignant cell dictates its verdicts in no uncertain terms. For a human being, the spectrum extends from human nature to Mother Nature. In the Akhanda Paradigm, the nature of brainstem being, limbic being, cortical being and the nature of supracortical being, supracortical godhead and supracortical autonomy form the entire spectrum of nature along the Great Chain of Being.

Abraham H. Maslow vives in the same frequency when he clearly says, in *The Farther Reaches of Human Nature* (Penguin Books, 1976, pp 106 - 107),

> "the best way for a person to discover what he ought to do is to find out who and what he is, because the path to ethical and value decision, to wiser choices, to oughtness, is via 'isness'; via the discovery of facts truth, reality, the nature of the particular person. The more he knows about his own nature, his deep wishes, his temperament, his constitution, what he seeks and yearns for and what really satisfies him, the more effortless, automatic and epiphenomenal become his value choices. (This is one of the great Freudian discoveries and one which is often overlooked). Decovering one's real nature is simultaneously an *ought* quest and an *is* quest. This kind of value quest, since it is a quest for knowledge, facts and information, that is, for the truth, is squarely within the jurisdiction of a sensibly defined science."

The Authority of Morality

If one knows the nature of an object or a subject, one knows its morale. If one knows the mechanism of 'change', 'conversion', 'metamorphosis', 'transmutation' and 'transformation' of nature, one learns the order how the moral values get changed, converted, metamorphosed, transmuted and transformed.

Every tiny or a tremendously huge whirlpool in this bournless ocean of consciousness has been unrolling, unfolding its nature ceaselessly to become one with the ocean. Their moral code in every phase transition has been undergoing a change, conversion, metamorphosis, transmutation or transformation. Eventually in the process, when one's nature becomes Mother Nature, one is Consciousness - the final *Authority* to decide what is unnatural. Consciousness is the only constant. All other constants are undergoing flux in nature.

Below the hierarchy of Consciousness-Mother Nature, there exist three other constants in nature, with relative authority to lay down the code of conduct. In the physical science, those are constants of Einstein, Max Planck and Prigogine. For a scientist who works below the plane of this triangular guard, it is 'unnatural' to supersede the code of conduct laid down by these constants. In biology, this authority has been conferred to the Supracortical Autonomy (the Sadguru, the T.E. personified). In an individual, the biological integration centre in the human brain is the Supreme Biological Homeostat for morality and values. It is the centre of the triangular guard formed by Reasoning, Instinct and Feelings.

Morality in relation to some other Concepts

So far, we have been discussing morality in absolute terms. It needs to be discussed in relation to some other concepts. The important and relevant ones are as follows:-

1. Morality and Integrity :

The observance of morality is outcome of integrity. The integrity always involves consciousness. It is a conscious synthesis out of diversities. It is pivotal in the homeostatic ocean. The integrity needs orientation of space and time for a purpose or cause, known, or unknown. The time-cue, space-cue, cause-cue, are intimate to ananda-cue of a cell, tissue, organ, system or the

being as a whole. The bordering zone of sanity and insanity is guarded by integrity. Loss of this integrity is insanity, disease, pathology.

The biological homeostat of a human being is the biological integration centre in the cerebral cortex which integrates five vital biological phenomena namely love, sex, ego, life and death. A delicate splash in one, is followed by the spread of ripples across the entire homeostatic ocean which is brought under control by intervention of BIC.

2. Morality and Pleasure :

To seek pleasure is not immoral. Unlimited motivation for pleasure may crush down the standard or norms. The guideline here is integrity again.

The programming in the genes, the cause-cue, is always linked with the pleasure-cue. One is free to turn it towards an ecstasy or turn-down to insanity.

3. Morality and Freedom :

As the sphere of freedom enlarges, the tendency to surpass the barriers, the constants, the existing boundaries of code is sharpened. With a real freedom, some of the codes of nature may break down. If it is associated with self-organization for newer codes, it is well and good. The new codes include the older ones, however, in a different way. Following a supracortical opening, the system is open. One is free to do anything one likes. But tell me who is really free? How long is the rope of this freedom? There are slippery slopes. There are death traps. There are alluring calls of oblivion. The ultimate is transformation of one's nature into Mother Nature. The 'Free will' is prerogative of Mother Nature.

> "The will of the individual, even when completely free, could not act in an isolated independence, because the individual being and nature are included in the universal. Being and Nature are dependent on the all-overruling Transcendence."
>
> – Sri Aurobindo
>
> in The Ascent Towards Supermind, Vol 19, of Sri Aurobindo, 926.

The highest in human form, is a Supracortical Autonomy, the Sadguru. Even His cortical system has been made into a flawless autonomy by the intervention of Mother Nature. The 'Free Will' is a prerogative of Mother Nature only. The rest of the beings are under obligation of their respective natures. If the door is left open, the moral values evolve automatically during change, conversion, metamorphosis, transmutation and transformation, till one's nature becomes Mother Nature.

4. Morality and Character :

Morality is related to nature. Nature is knotted with character. When I ask you to look into a matter, I ask you not only to observe but also to see. You observe the outward character but you see the inner nature. Character is what is expressed. Nature is what is within. The outcome of integrity of nature is morality. Its expression shines in the character.

5. Morality and Political learning :

One has learnt to drive a car. One is very cautious so that one does not hit anyone or jump a red light. It is morality. But, he may be hit suddenly by others for no fault of his. The experience and knowledge about the numerous possibilities of getting hit in different ways and to learn to

remain alert letting not anyone hit you is the political learning. In other words, the knowledge and skill of not letting anyone make you the victim of politics is political learning. Lord Krishna of Mahabharat understood the politicking of 'Kauravas'. So all his advices to 'Pandavas' were to outmanoeuvre their political game. He has been designated as Purushottama (supracortical godhead) by many prophets! He is the original orator of the Bhagavat Gita, one of the best practical holy books in the sphere of religion.

6. Morality in a group. The problem of Hierarchy and the Authority :

We have been discussing so far the morality in an individual. But in a group, what are the ethics of interpersonal relationship? What is the essence of and determinants of hierarchy? How does one gain authority to dictate others?

a. Ethics of Interpersonal relationship :

In a group, along with the self-discipline and self-integration what matters is the understanding of others. Then, come the communication skill and linguistics. To have regard to every one's nature and a respect for everyone's 'self' is a quality. The capability of seeing one's self in other is a manifestation of love. Keeping this in view the management has to take care of the whole system. The ethics of interpersonal code of conduct evolves around this mutual regard and respect. This regard and respect flourishes if the members are motivated for a common cause, purpose or goal. In this context, once again I wish to emphasize biological integrity. If you are integrated, you do not like others to disintegrate. If you care for your integrity, you immediately set a field of integrity for others. If you are conscious of the absence of self-deception in your integrity, it is spontaneously displayed in your character. The exploitation and corruption, fundamentalism and terrorism are far away from the field. The conflict between individual's value and corporate standard is seen to be vanished in the path of transformation.

b. The Hierarchy :

The problem of hierarchy has been discussed in chapter eleven. The question of hierarchy comes only when there is a need of setting up a management system. The management system is essential when efficient deployment, cost effectiveness and utilization of resources, both human and material, are in question.

In Akhanda scheme of transformation, there does exist a management system of Nature. The consciousness manages the show, with Mother Nature as executive who handles the problem through an integrated* 'self', the springboard of all worthy human action. The transcendental essence is hierarchically immanent. In a living being the hierarchy is maintained through consciousness-antematter meridian (see *The Dynamic Web of Supracortical Consciousness*, chapter 18) of cells. The spontaneous self-opening of every individual in a conflict-free atmosphere along the hierarchical pathway of nature is the secret of its management's success.

* "The laws are not masters but servants and he rules them who obeys them" — Henry Ward Beecher.

c. The Authority :

Traditionally, the authority** is conferred on the seniormost person with an impeccable service record, sieved through a steel-framed meritocracy, with a belief that the most experienced one can guide the neophytes with caution and love to move slowly in a higher direction: a result-oriented authority. And if the authority cannot fulfill it, irreverence, discontent, challenge and finally revolt are quite natural. And, anything natural is also moral.

So, Nature does it in a different way. Nature makes leaders who are born authoritative. Then, there are 'Seers'. Their knowledge and experience are holistic. They are the holograph of the universe. *The secret of their management skill is in supporting self-opening in a conflict-free zone, along the pathway of individual's nature.*

7. Morality in Institution :

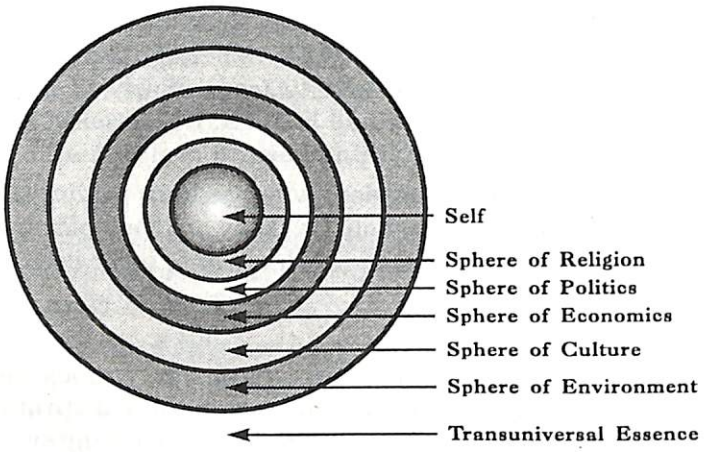
Morality is not just a private affair. It is also an essential basic for various social institutions. The national culture is nothing but the composite of confidence in those institutions, the parliament and the electoral process, the judiciary and the civil defence, the banking system, the revenue services and the stock exchange, the educational institutions and the employment mechanics etc. etc. The institution is made up of individuals and the individual need to be identified by integrity. If an individual is not biologically integrated, does not have a regard for it, shows little inclination to progress in that direction, he is not only dangerous for himself, but also for others, the society, the nation, the continent and in extreme case, even for this planet.

Marriage is a recognized and celebrated institution for sex. Why sex only? It is an institution for Love, Sex and Ego. Whatever privacy one may assign to it, it is an institution for developing biological integration. Mistrust, inconfidence and even a shred of doubt between two partners can lead to death, divorce and other dangerous consequences. On the other hand, a harmony of Love, Sex and Ego between two partners is more cherishable than heaven's multifarious sensual pleasures. The present paradigm assigns a special value to this institution. In the paradigm of Consciousness-Mother Nature, *one of the main purposes of life of a married couple is to struggle for transformation of their present reductionism into future holism, where the wife becomes Mother Nature and the husband, the consciousness.*

The Ecosystem of Morality and Values

The values are moral principles which are integrated with the 'self'. This integration of moral principles with the 'self' leads to their biologization. The cultural code which may be once adopted arbitrarily or due to necessity in a specific circumstance or enforced by the powerful leader of the folk, has to penetrate through five overlapping concentric spheres (Fig. 23.1) to reach the 'self'. The *sphere of culture* is the outer one only, around which is the *sphere of environment*, the atmosphere, the climate, the plants and animal kingdom. Inside the cultural sphere is the *sphere of economics,* the material resources, their growth and distribution. Inside it, is the *sphere of politics* where goes on the game for pursuit of power, outmanoeuvring others physically, intellectually, morally or otherwise, to pave the way for one's own principle and their

** Peter Drucker, an authority on modern management system rightly says, 'Management should not appoint a man who considers intelligence more important than integrity.... if he lacks in character and integrity..... no how brilliant, how successful, he destroys'. What is true for a profit oriented business management of West, holds more true for service oriented management of human resources. The Akhanda Paradigm defines, clarifies and emphasizes this this integrity.



Spheres in the Ecosystem of Morality
FIG. 23.1

implementation. In a congenial environment, culturally rich and economically sound individuals may understand the futility of the political pursuit, and may look for something permanent, something lasting, something infinite, eternal, immortal. They choose the *sphere of religion* which has numerous radials(ways) to the centre, *the 'self'*. The word religion has been used here in its true sense, — a pursuit in going back to the origin. In fact, this is spiritualism. The ritualistic religion comes within the sphere of culture.

Some of the examples of the disturbances in the ecosystem of morality, identified in different spheres, at the fag end of the twentieth century, is shown below.

Examples of Disturbed Ecosystem of Morality

1. **Environmental :**
   a. Depletion of ozone layer/Hole in the ozone layes.
   b. Deforestation.
   c. Nuclear waste dilemma.
   d. Depletion of natural resources.
2. **Cultural : Ethnic cleansing :**
   a. North vs. South.
   b. Black vs. White.
3. **Economical :**
   a. Instability of world economics.
   b. Debt trap for the developing countries.
4. **Political :**
   a Disintegration of U.S.S.R.
   b. Gulf war.
5. **Religious : 'Bosnia' problem.**

Genesis of Values

The moot point is that all these spheres are interdependent and the central pivot remains the human being, the 'self'. One cannot remain individually moral with worldwide aggression

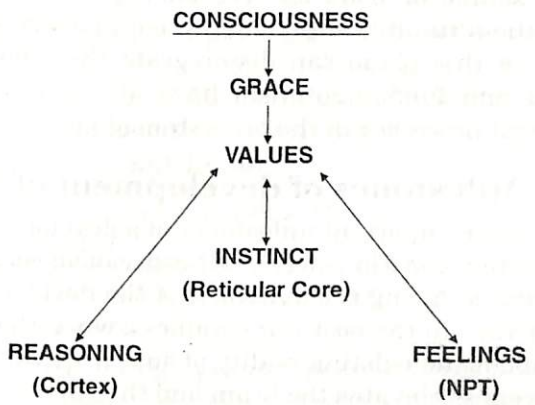
of crisis of perception, crisis of cognition and the crisis of purpose. If a well-defined profession is fragmented or compartmentalized in such a way that "the members of one territory do not understand the arcane language or the native custom of the others", (Sir James Lovelock, in The Greening of Science) then the values which have uphold the profession are charged with question mark. When the female anatomy is being exported from one continent to other to satisfy the sensual curiosity of human animals, then the credibility of the human race is on the slippery slope. If one fifth of the world's population produces eighty per cent of the chloroflurocarbons, that is responsible for depletion of ozone layers, if the poor countries being victim of debt trap, finance the rich countries in term of repayment of debt, it is certain that the ecosystem of the morality is in serious perturbation.

The Akhanda Paradigm holds the universe as a living organism. Just like minerals of the bones of an animal skeleton are not dead because of the existence of scant osteoblasts and osteoclasts, just like the thousand year old redwood trees in the west coast of USA, (Sir James Lovelock brings this example in his article *'Greening of Science'*), are not dead because a thin ring of living tissue is sandwiched between apparently dead central wood and the peripheral bark which together constitute about ninetyseven percent of their volume, in the same way the living beings on this earth cannot evolve their living codes independent of their materialistic environment, its resources its distribution, its politics. The evolution or involution of species is intimately related to evolution or involution of its environment.

During evolution of a higher being, the moral code is natural to come involving the whole ecosystem. The Akhanda Paradigm points to this genesis of morality during transformation of present cortical being into supracortical being. And, the starting point again remains the 'self'.

The 'self' within the brain understands its imprisonment within five overlapping concentric spheres. Who am I? What am I supposed to do? Where from I have come? Where shall I be doomed, if proper precautions are not taken before hand? It is 'self', seeking the 'self', through 'self,' for 'self'.

If 'self' is successful in his mission, then inside is out and outside is in. There is inversion of the neuraxis.



Genesis of Values
FIG. 23.2

During this process, only a few moral principles, which have survived the dynamics of five spheres around, can only reach 'self'. During pursuit of 'self' for self through 'self', both 'self' and values pass through stark companionless reality, the nothingness, the emptiness, the great void. In absolute privacy the instincts (reticular system), the reasoning (the cortex), the feelings (limbic system) generate 'values' for 'self' under downpour of Mother Nature, the Grace.

The generated values are biologized. Biologization means realization by biological hardware at the cellular level of the nervous system.

At the cellular level, the neuron, endowed with plasticity, which was hither to *accepting* an information (e.g., moral principle) and *conducting* if for *delivery* to the proper post, now *computes* it, *integrates* it and *makes an internal representation* at the molecular, biophysical, biochemical and structural levels.

Professor Gerald M. Edelman, a Nobel Laureate and a Neuroscientist, defines 'value' in context of neural organization process, very lucidly. "What do I mean by value? Value is fundamental, and we assume evolutionarily determined, bias of the organism, something that says, 'Light is better than no light', or 'touch is better than no touch', or, 'heavy touch is terrible', etc." (*Frontier Perspectives*, 3(2), 7-12, 1993). The role of 'conformon', one of the subtle energies, in bringing this structural and functional conformity of the neurons during biologization of values is a frontier for research.

This integration of values happens at the level of consciousness of the neuron. Unlike computation, which is done below the threshold of consciousness, integration* always involves consciousness. So, the biologization is easier and a synthesis from apparently chaotic and conflicting forces is possible.

The biologized values interact with five overlapping spheres to alter their dynamics in such a way that their durability and stability, subtlety and fineness become more and more worthy.

Here, once again I like to emphasize the biological integrity - an integrity of 'self' with the Essence of the Multiversity. At the time when human beings have been preparing for an access to a 'free source' of 'pollution free' energy from 'vacuum', a minor self-deception in the centre could be the ultimate cause of deception in every sphere around. The loss of even a fraction of integrity in this plane can disintegrate the whole ecosystem. Corruption and exploitation, terrorism and fundamentalism have all their origin in self-deception. These are the four pathological processes in the ecosystem of morality and values.

Milestones of development of Moral Values in the Brain

The three important milestones of a developing brain are motivation guided consciousness (limbic system consciousness), self-consciousness and supracortical consciousness. The values are biologized during the dynamics of the development. The existing values are tested during Love and War. In the post war calmness, when the chaotic elements are eliminated, awareness of 'self' about the existing reality of supracortical consciousness is a flash point. The ascent in this awareness elevates the brain and the values cultivated in it, towards the transformational threshold. Nature's effort to centralize the values gives birth to the supreme biological homeostat, the biological integration centre in the brain. The self's effort to seek refuge in Mother Nature leads brain to ascend along the great chain of being. The seven milestones are described below in greater details.

* Integration and computation are not synonymous. If they were, the computer scientists were the best candidates for chairing the national or international integration council. The brain of integrated cracked brain syndrome is computationally inefficient but regarding integration it is just brilliant.

1. Supracortical Consciousness (S.C.C) :

In the Akhanda Paradigm, the love is cortical manifestation of supracortical consciousness. The objective sign of love is sacrifice. The day an animal expressed its feelings for its fellow, identified its own 'self' in the other, the dawn of S.C.C had been ushered. The care for the offspring is characteristically seen in mammals. Paying homage to the dead is seen amongst elephants. The concern for the sick is observed amongst chimpanzees. In human beings, this S.C.C is primarily responsible for formulation of human values. Whatever sacrifice and love one observes day to day is, in fact, the result of the successful expedition of S.C.C through numerous obscurities of the infrastructure of the nervous system. Education and training may facilitate or obstruct this downward flow.

2. Self-Consciousness :

The ability to recognize one's own image in a mirror is an objective test for existence of self-consciousness. A conscious baby becomes self-conscious around twelve to eighteen months of age.

Self-consciousness came in the picture long after supracortical consciousness had started acting through the cortex. Initially and during many stages of its development it was found to be an obstruction for the Descent of S.C.C The eventful day is that when 'self' becomes aware of the existence of S.C.C (see also, sixth and seventh milestones).

Meanwhile let us have a glance on the two guiding principles of evolution of the brain.

The evolution of the brain has been consistently following two principles.

1. Preservation of self.
2. Preservation of species.

In the cerebral cortex of the brain, there are two principal areas which has been evolving according to these codes.

Preservation of species (Species-hood)	**Preservation of self (Self-hood)**
Association cortex, the 'silent' areas, the windows of the brain.	The sensory motor cortex, the coordinating cortex.
The cortex primarily representing external cosmos.	The cortex primarily representing internal cosmos.
Limbic system representatives are amygdalae.	The limbic system representatives are septal nuclei.

The involvement of self-consciousness is responsible for initiating a churning of the two principal areas. More a brain grows and evolves, more the silent areas are brought into action, converted into non-silent integrator areas. In this way, the imagination is brought into reality, and the biologization of the external cosmos continues. During this internalization of the external cosmos and unfolding of the inner cosmos, the code of conduct is generated in an autopoietic way.

3. Motivation guided Consciousness :

The limbic system is the seat for motivation guided consciousness to seek pleasure and avoid the unpleasant. The advent of self-consciousness has given a distinct directive to this limbic system.

The tendency to come out of customary automatism is quite natural for an evolving self-consciousness. The motivation to sacrifice the lower ones for a better one is also quite natural.

'Sacrifice the lower pleasures to have the higher ones. Give up the evanescent and pick up the eternal. Prefer a holistic, incessant, eternal, independent, reactionless ecstasy to a focal, interrupted, transient, dependent pleasure which evokes a reaction'. Not in a day nor in a year, the dictum has reached such a higher note. This date of evolutionary journey starts from the day of early hominid and extends to the phase of Supracortical Autonomy in millions of years. This dictum is the outcome of the experiences of innumerable adventures, countless experiments and multiple heartbreaks, punctuated by grave sufferings or unbounded enjoyment.

4. Test of existing values in Love and in War :

In love and in war there is no fixed rule. In fact, these are the times when values are put to test. During love and war, the internal representations of values in the brain are exposed to the survival test.

a. When there is clash of love and ego, a clash between S.C.C and a crude form of self-consciousness, there is a threatened death of the being and its attached values.

b. When there is a clash between ego and pleasure, a clash between the crude form of self-consciousness and the limbic consciousness, the inner being and its attached values are tormented. In fact, it is during war and love, it is realized that value is something 'that you would treasure it, when all is being lost' (Prof. R. K. Mishra). The value is a treasure of the 'self', a treasure which is retained during passage through nothingness and emptiness. It is something 'primal' (imprint in the instinct), an order beyond the reach of the 'entropy', a manifestation of the primordial 'purpose' and so, is in conformity (cf. conformon) with Mother Nature. The feelings is its soul, the 'reason' is its argument-proof waist-coat. The killer instinct is its unconquerable guard. The 'Grace' is its chaos-impermeable covering.

5. The Flash Point :

During the post war calmness, when the cause is silent and the time is still, nothingness in life and emptiness under the heel, the flash comes. The 'self' becomes aware of the existing reality of S.C.C Then a conscious effort to biologize S.C.C elevates the brain and the values cultivated by it, towards transformational threshold.

Here only, it is realized that *'value' is something with which the 'self' is extremely comfortable* (Prof. R.K. Mishra). The value is a self-comforting nobility and not self-inflicted surrender to circumstances.

6. Nature's effort to centralise the values :

There is diffuse pouring of Mother Nature (Grace) on the cortical neurons irrespective of their nature. This has been responsible for genesis of politics - the riddles of the heavens (see, chapter fourteen). Like Nature's extraordinary solution of interpersonal relationship in cell biology, through establishment of the synapses, there is another remarkable way the Nature solves the riddles of the heavens. She mixes 'Sex' with four other vital phenomena of biology - Love, Ego, Life, and Death. The higher is one's evolutionary status, the more complex is this 'mix-up'. The result of such an effort to centralize the values is the birth of the biological integration centre, *the highest homeostat* for human values.

7. Self's effort to seek refuge in Mother Nature :

This is the landmark of transformation of cortical being into supracortical being. This solves the riddles of heavens and brings purity, perfection, harmony and bliss (see chapter sixteen) in the human brain. Who can take a pure unbiased decision? That brain which is not biased in favour of either left or right hemisphere. Whose decision is perfect? That brain's, which works with nil stair asynchrony. Whose voice can settle a pandemonium? That brain's, which processes information and responds without a bit of cosmocortical asynchrony. Who can transfer bliss? That brain, which is pure, perfect and in harmony with the universal Essence. All this is possible through surrender to Mother Nature. In the process, one's nature becomes Mother Nature and one is Consciousness (The Authority).

Valuelessness and Values

The value, in simple words, is the set rule of the game or a function. It is for play's sake. When there is no game, no play, no function, the question of value does not arise. There is an intrinsic dualism in a game whether it is played alone (intra) or between (inter) two or multiple beings. The pure unconditional state is value-free. The functionless state is value-independent. Once differentiation starts, value system is laid down accordingly. Breaking of the value system spoils the whole game. That's why Akhandamandaleshwar Sri Sri Swami Swarupananda Paramahansa Dev emphasizes mass morality campaign programme so much. The whole process of differentiation of pure crystal consciousness into different conditional states and then the way back to the original Unconditional state is the game of the cosmos. During this play, letting the senses or passion free rein leads to valuelessness of the conditioned senses. It does not lead to the unconditional state of the being. On the other hand, the refusal to succumb to the passion of senses adds in the process of deconditioning of 'self' and helps the process of transcension of the being. Unconditional state of the being can be achieved, irrespective of denial of or letting free the senses, through conscious, active, complete, unconditional surrender of the conditional being to the Unconditional Being. In the process, one's nature becomes Mother Nature and one is Consciousness, the Authority of the Morality. The Akhanda is, after all, an executive. So, his moral code is the last word in a given circumstance.

Chapter 24

Human Nature Revisited
The Paradox of Love and Sex

Do love and sex have a paradoxical relationship? Certainly not. The spectrum of social culture, ranging from an eastern monk holding love as something Divine and a man from the western half of the globe thinking that loving someone is almost always associated with a sexual relationship, has generated the strength of this belief that love and sex constitute a paradox. The paradox exists so far one does not understand the locus standii of the two in unified scale of phenomena and one does not admit the existence of their relationship with ego, life and death.

In absolute terms, love is the predecessor of sex. But in biology, sex has come earlier than realization of love. For any realization, one needs nervous system, the brain. Though the brainless animals also feel, understand, learn and express, we will keep our starting point, from the brain only.

With the growth, development, learning and moulding of the nervous system, the pure sexual drive which was initially meant to meet a biological need (sex for preservation of race), has been stepped up in following direction. With the evolution of limbic brain, sex has been admixed with pleasure consciousness (sex for sensual pleasure). The emergence of cerebral cortex with its discriminating power, has imposed a natural restrain on the selection of the reproductive partner or of a pleasurable mate (restrained sex). If selection goes wrong the whole psyche is shaken up. When the selection is right, of choice, there is harmonisation of different neuronal currents in the brain.

The advent of self-consciousness in the cerebral cortex since the time of the early hominid, has made it more complex. The mixture of 'ego' (a crude form of self-consciousness) with sex has been the determinant of history of human animals over millions of years. The refinement of self-consciousness, its ascent through a hierarchical order, has added 'values' in sex. During this refinement of self-consciousness, the biological hardware of human brain has also glimpsed consciousness outside the brain (supracortical consciousness) and realized the existence of Love.

Love is seen to be manifested as sacrifice for the beloved. So, in love the pleasure is for the partner. In sex, it is an enjoyment of the self. To empty one's everything for the partner, is love. To rob the partner of everything, is sex. To accept with grace what has been offered is love. To revolt for what has not been given is sex. To give is love. To take is sex.

During this refinement of self-consciousness, the reproductive need of the 'genius' genes has been identified. The felt need of how to produce a better child than one thinks one can, has shaken the human brain vigorously and the effort has been on by human biologists to face the challenge squarely.

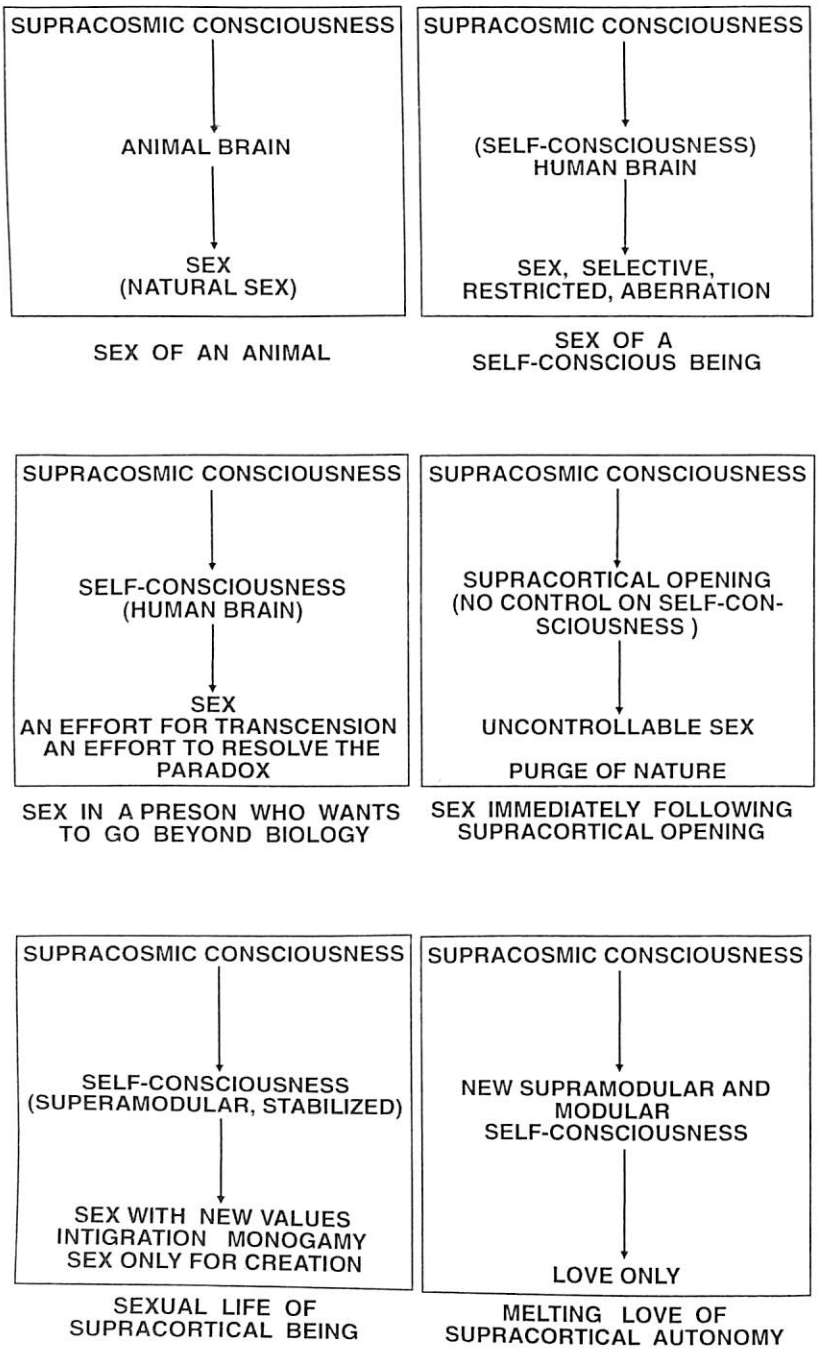
With the consciousness outside the brain having been biologized at the cortical level, the biology of sex is seen to undergo a complete inversion. The love is being defined in biology as cortical manifestation of supracortical consciousness. The objective sign of love is sacrifice for the beloved. Love also has a genetic basis. One cannot love a music or a flower unless one has genes for it. An affair of love is an expression of the desire of genes to bloom. The love turns on the genes. The biochemical changes in love is intimately linked with molecular biology of gene expression. When the genes need to be vertically transmitted, love is 'selfish'. Where no such desire is obvious, the love is really lovely.

In the Akhanda Paradigm, Love is Life. It is Love which flows as Life through sex from generation to generation.

Absence of love is equivalent to death. It is the inability of the nervous system to translate this Love of cosmos as Life, which is the cause of physical death. On the other hand, whatever love and sacrifice one observes in day to day practice is because of successful expedition of supracortical consciousness through numerous obscurities of infrastructure of the nervous system. The sex in the present paradigm, however, remains as a reproductive need for creating a better progeny. In addition, the sex is also recognized as one of the ways to reach the supreme biological homeostat of reasoning, feelings and instincts, the biological integration centre, in the brain. The biological integration centre integrates a five-prong situation of love, ego, sex, life and death. If one loves a girl, there is no harm. One wants to have sex with her, the problem mounts. One desperately wants it, one's ego is involved. A very complicated situation. If continued, the events will be drawn to a point of life and death. As much one's ego is involved in the situation, so vigorous is the behavior in this five-pronged situation. The bliss through sex could come in life only if it has been done transcending death and satisfying love and ego simultaneously. This biological integration centre is the key landmark in the way of further march of the present cortical being towards supracortical transformation.

The Basis of this Paradox in Biology

The basis of the paradox of love and sex in biology is the very design of the biological instrument and its ever-openness, self-organization and transformational capability. The love, the supracosmic consciousness, if allowed to express uninhibited through an animal instrument, will be expressed as sexual activities in a non-self-conscious individual (see, Fig. 24.1). Imposition of self-consciousness in between, makes the whole system selectively open. Immediately it imposes restriction, selectivity and natural restrain. In due course of time, when the self-consciousness gains ability to have a glimpse of S.C.C, the question of transcension of sex is also attended. The possibility of transforming sex into love is seriously considered. Following a



The Paradox of Love and Sex
FIG. 24.1

supracortical opening, marked by temporary but complete dissolution of self-consciousness, there is a purge of nature corroborating the dictum that the sexual organ of an animal instrument is intimately linked with the cosmic apparatus for love. During gradual rebuilding of self-consciousness, the sex is used for procreation of a better progeny and for cortical integration. When the 'i' sense merges with the TE, there is no sex at all. The supracortical autonomy is the personification of melting Love.

Possessing and Loving a Woman

In spiritual culture, there is a saying that, "the woman you love, you should never possess". This is a psychological exercise to achieve integration. Possession has a strong 'I' sense. The possessing a woman has a strong connotation of having sex with her. The Love reminds one of Divinity. It is a psychological exercise to integrate love, sex and ego.

Before or during achieving biological integration, if one's love centre is in London and sex centre is in Paris and ego centre is in Calcutta, what integration does one expect out of this person? Again, one cannot achieve integrity by disintegrating one's love-partner. The integrity is achieved in vacuum when keeping every door open, one con-

sciously and critically rejects the slippery slopes and the biological hardware of the nervous system realizes the values of integration.

Following biological integration, love continues to mature along with the process of the person getting used to live in S.C.C. The conflict of possession and love is replaced by mutual complementation of freedom and compulsion. The dialectics is substituted by paradox. A successful passage through a series of paradoxes brings an equanimity. Following equanimity, a new order comes down with the help of the 'Grace'. The Divine Motherhood engages Herself in Divine Materialism.

Chapter 25

Human Nature Revisited
The Conceptual Anatomy and Physiology of Biological Integration Centre

In the Akhanda Paradigm, materialization of five phenomena is the starting point of biology. They are Love, Sex, Life, Ego and Death. There are schools of Westren philosophy which stress only on Ego and Sex. There are also thinkers from the East who have unequivocally expressed, 'Love is Life'. The formers are down to earth, while the latter's gaze is directed towards heaven. The dichotomy exists because 'death' has been ignored by both. If one realizes that 'death' is sandwiched between *heavenly* and *earthly* phenomena, then one gets the whole picture. Love, Life, Death, Ego and Sex are integrated in one centre, named biological integration centre (BIC), the final biological homeostat to integrate the unknown with the known.

That experiencing the transcendence of 'death' has an integrating capability has been ignored even by the most aggressive, creative and transpersonal psychologists, including Abraham H. Maslow. Maslow, in *The Farther Reaches of Human Nature* (Penguin Books, 1976), almost touches the bottom where he mentions about fusion of facts and values, coexistence of selfhood and species-hood and the beginning of Being-cognition. During this journey, to him, unlike Sigmund Freud, the whole unconscious does not seem evil or den of conflicts. Instead, falling in the same line of Rank, who saw it as artist's creative will or like Jung who found the collective unconscious as containing health giving symbols, Maslow finds it to be the fountain-head of creativity, experiential biology and biological phenomenology. He reaches the brink of an epochal breakthrough where he just misses the 'death' at the bottom. Clearly transcending this 'death' by the existing reality of supracortical consciousness, from the farthest reaches of human nature, the Akhanda Paradigm, brings the reality of 'Biological Integration Centre, the integration centre for elementary phenomenology of the Multiverse. This integration spontaneously ensures the integration of higher conscious, conscious and unconscious; universal brotherhood, species-hood and selfhood; 'truth', 'oughtness', and isness; Being-cognition,

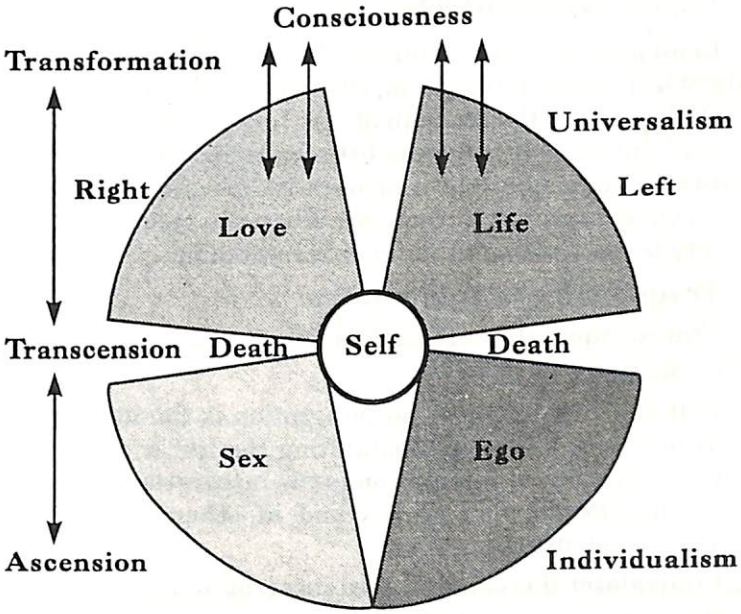
metacognition and the cognition of the Essence of the Multiversity. *With this integration, one spontaneously transcends the most difficult dichotomy of 'flesh' and 'spirit'.*

Conceptual Framework of BIC

A. Anatomy :

To begin with, BIC is a centre, a point. To analyse it, the point may be enlarged to a circle. In the centre of the circle is the 'self'. The horizontal diameter of the circle is 'death' line. In the upper half, the left quadrant represents life and the right, love. In the lower half, left quadrant represents ego and the right, sex (Fig. 25.1).

The upper half of the circle is 'open' to cosmos. The lower and upper halves communicate with each other through transcendental core, at the pith of which there is 'great void', the so-called death.



Conceptual Anatomy of BIC

FIG. 25.1

B. Physiology :

Individualism is confined to lower half of the circle. Universalism is represented in the upper half. The Akhanda takes account of the Whole, keeping the 'self' in the centre. He sees 'self' in every bit of life.

The process of ascension is associated with acclivity of ego and hierarchical restrain of sex. The crossing of the void through transcendental core is transcension. The transformational switch is in the awareness of the openness of the upper half of the circle to the cosmos.

The 'life' is manifestation of percolated supracosmic consciousness in the left half of the circle which goes down the transcendental core in the 'ego' area of the individual. The love is a result of the downpour of supracosmic consciousness in the right half of the circle. It drains down the transcendental core as sex.

C. The Integration :

Computation or mapping of five phenomena in this biological homeostatic point does not suffice them to be integrated as one. In contrast to computation, integration is a conscious synthesis from the five. There are five in one and One in five. That is the integration.

From a mechanistic point of view, this integration could be visualised at three levels. Nontranscendental integration: exemplified by historical heroes. Transcendental integration: exemplified by mythological heroes. Transformational integration: exemplified by spiritual giants.

It must be told at the outset that the integration is not possible without realization of the Whole by biological hardware. In a machine it may be an all or none phenomenon. But in biology, where there is stratified stability in an open system, integration is graded and it is never final, because of its openness to the Transuniversal Essence (TE).

Nontranscendental Integration :

In an average human animal the ego and sex are the determinants of his behavior. During nontranscendental integration, the two *usually* have a reciprocal relationship. In the ascent of the Ego implicit is the restrain of sex. In general, an egoistic person is less sexual. On the other hand, a hypersexual person is little bothered about his ego. Many people consciously will not let two to be mixed up. The confrontation of egos results in violence. The combination of ego and sex is *unusual* but not infrequent. When the violence and sex become the essence of culture of a society the extinction of the race is not too far.

Transcendental Integration :

Transcendental integration is usually ipsilateral involving either the left or the right half of the whole.

Left sided transcendental integration is the integration of life and ego. In the poles of its spectrum one finds an ego dominating the life or a life (creativity) dominating the ego. Right sided transcendental integration is the integration of love and sex. In one pole of the spectrum love is manifested only as sex and in other pole, there is love which lives in a domain ever-transcendental to sex.

Contralateral transcendental integration is not possible without transformational switch.

Transformational Integration :

This is the final phase of integration. One knows the parts, one knows the Whole. Any part is not out of proportion in any given circumstances. Any part yields if the Whole demands it. The integration is not only ipsilateral but also contralateral, not only vertical but also horizontal, not only straight but also diagonal and oblique.

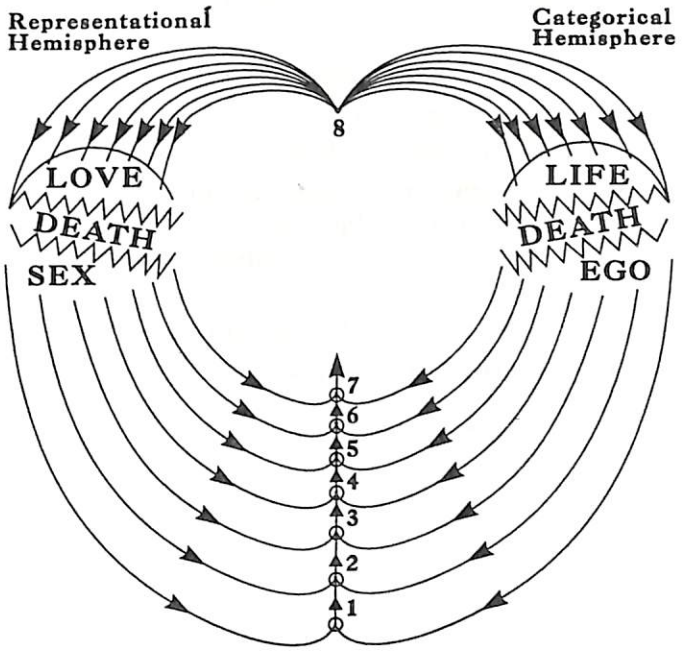
Here, not only we get love as life but also we see transformation of sex in creative activity. Not only we see transformation of sex into love, but we also see how love can mould the ego.

Role of Consciousness in this Integration

The integration we are discussing about, is a conscious integration. Human consciousness, cosmic consciousness and supracosmic consciousness are integrated through this point. The reasoning, the feelings, the instincts, the values and the Grace meet and interact here. Without consciousness, such highest integration in Nature is not just possible. The Transformative Essence works through this integrating point.

Extrapolation of this Conceptual Framework in Biological Hardwares

Is it possible to extrapolate this framework in human brain? Possibly, yes. Look at the top of the brain, underneath the vortex of the skull. From the topmost area of the brain, in its anatomical position you scoop out a cortical sphere from here. The area is near, around and involving the paracentral lobules, the area which represents external genital organs. The cortex of categorical hemisphere (the left) represents 'life' in upper three layers and 'ego' in lower three layers. The cortex of representational hemisphere (the right), represents love in upper three layers and 'sex' in lower three layers (Fig. 25.2).



8. Cosmic Loop(s) 7. Commissural Loop 6. Limbic Loop
5. Brainstem Loop
4, 3, 2, 1, Spinal Loops through Spinal Integration Centres

Supracosmic Current from both Hemispheres descends, only to ascend through Central midline Tract

Hemispherical equanimity in Proposed Neuroanatomical Framework
FIG. 25.2

1. Love is transcendental aspect of Sex, represented mainly in the representational hemisphere(R). They are separated from each other by the transcendental core in the region of right paracentral lobule.

   Life percolates from the cosmic consciousness through the upstairs and transcendental core in the cerebral cortex of categorical hemisphere(C). Its non-transcendental aspect is the Ego, the crude modular self-consciousness.

2. The downstair modules of categorical and representational hemispheres are interconnected at the cortical level, limbic level, at the brainstem level and through the four integration centres in the spinal cord. The eighth loop is (are) supracosmic, pouring 'Love' and 'Life' in representational and categorical hemisphere respectively (Fig. 25.2).

3. Keeping their meeting points one at the top of the brain and another at CIC, there could be seven cosmic loops outside the brain. They are 'transformational' counterparts of seven transcendental neural loops, thus completing the circles.

The Landmarks of Human Physiology in Future

The landmarks are as follows.

1. Supreme Biological Homeostat :

In a highly developed brain, four integration processes are accomplished here.

i. Integration of five vital phenomena of biology, namely love, sex, ego, life and death. The Biological Integration Centre.

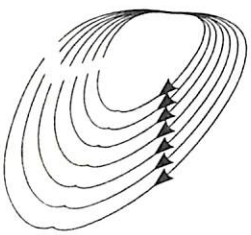
ii. Integration of diffuse 'pouring' on the cerebral cortex from the cosmos.

iii. Integration of left, and right, upstairs and downstairs of the cortex and finally of the brain and the cosmos.

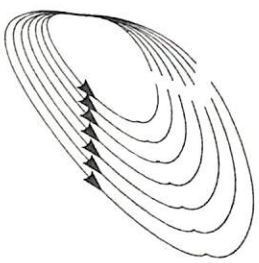
iv. Integration of reasoning (cortex), feelings (limbic pleasure triangle) and instinct (central reticular core) which crystallizes as *values* in presence of the 'Grace'. The values are in dynamic equilibrium with the 'Grace', the executive facet of Consciousness.

This is the Supreme Biological Homeostat.

2. The Cortical Dynamics :



Clockface Vortex of Supracosmic Current through Left Hemisphere (Incomplete and Fragmented)
FIG. 25.3



Anti-clockface Vortex of Supracosmic Current through Right Hemisphere (Incomplete and Fragmented)
FIG. 25.4

Clockface Vortex : (Fig. 25.3)

When the categorical hemisphere (say,left) is more active, the cosmic consciousness pours on its upstairs as 'Life'. It diffuses through the transcendental core, gets modulated in downstairs (the ego) and travels through seven neural loops to the representational hemisphere. The Sex is transcended as Love. The Love unites with Life through the cosmic loops.

Anti-clockface Vortex : (Fig. 25.4)

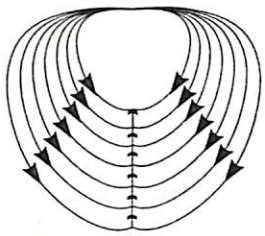
In the person, with dominance of representational hemisphere, the current is anti-clockface. The supracosmic consciousness pours down to upstairs (Love), passes to downstairs (Sex) and through seven neural loops reaches downstairs of categorical hemisphere (Ego) for transcension in upstairs (Life) and final transformational union with Love.

Hemispherical Equanimity : (Fig. 25.5)

In persons with hemispherical equanimity, the cosmic current produces a peculiar phenomenon. The supracosmic downpour on two hemispheres, through left and right cortex, through two transcendental cores meet in the integration centres of the central neuraxis. There is no nullification; but there is a vertical ascent of cosmic current from the lowest integration centre to the highest. This is possibly what Tantra calls Ascension of Kundalini, a much misunderstood,

misinterpreted term, used by modern tantrics or their scientist disciples.

Hemispherical equanimity is not merely a dynamic equilibrium in information transfer of the hemispheres. It is equanimity in an open system. Here, the representational hemisphere is vociferously categorical and the categorical hemisphere represents the eternity. The cosmocortical integrity is the mainstay for such equanimity.



Supracosmic Current from both Hemispheres descends, only to ascend through Central midline Tract Hemispherical Equanimity
FIG. 25.5

3. The play of Purusha and Prakriti following hemispherical equanimity :

The entelechy (of Aristotle) spirals up round the inner immobile being (of Sri Aurobindo). The play of Purusha and Prakriti continues till neurological pleasure triangle is perforated. The time coincides with synchronization of central region of the hemispherical disc (chapter 2) and biologization of S.C.C at the level of limbic nuclei.

Future Implications

The implications of such cosmic and supracosmic currents through seven neural loops are enormous:-

1. The Chaotic Physiology :

Hapazard, misguided, nonintegrated flow of neural current in one or all of the seven neural loops is reflected in the disorders and chaos in the system governed by concerned integration centre. The pathogenesis of many unexplained diseases could be explained from this chaotic physiology.

2. From Psyche to Soma :

The psychic current flows down through integration centres for maintenance of health of the being. Its role in causation of disease could be explored from this point of view. Left handed vortex, right handed vortex, disarray in the loop, countercurrent in the integration centre, collison, interference, reinforcement, dissonance, desynchronization, nullification, eccentric accentuation, — all may be implicated in pathogenesis of psychosomatic illness.

3. From Soma to Psyche :

Regular care, maintenance, exercise, regularity of the different organs and systems under disciplined guidance of an advanced traveller, prepare one's psyche for a supracortical opening. One understands the implications of cosmic loops and the transformational potential of the present human race.

4. Therapeutics :

The day is not very far when future physics will discover instruments which could be oriented topographically to correct disorderly current flow in different integration loops.

An Introspection

Many of my colleagues may think that I have reduced the five vital phenomena of biology in anatomical minimum. Really, I have not done so. I have constructed a conceptual anatomy

of such abstract phenomena and tried to extrapolate this concept on existing neuroanatomical and neurophysiological knowledge. None of them is isolated or mutually exclusive. There is interpenetration of five phenomena, not only in the cortex but also in commissural system, limbic brain, subcortex, brainstem and spinal cord. The relevance of this microanatomical mechanics for understanding of psychosomatic and somatopsychic interrelationship should be taken in its true spirit. There are animal models of many human diseases which are thought to have strong psychosomatic component. Whether an animal experiences those five phenomena or not, is not clear. Even if they experience, their expressive routes are not so developed as in human being. This microanatomical neural pathways may help many experimental scientists to understand the neural mechanism of such diseases in animal model.

Chapter 26

Human Nature Revisited
Integration in Yogic Body

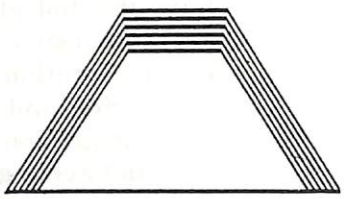
The union of Jivatman, Atman and Paramatman is Yoga.

Jivatman, Atman and Paramatman

The brainstem cortical 'current' from brainstem vital centres of respiration, cardiac action and vasomotion, through limbic pleasure triangle, to the cerebral cortex is representative of soul or Jivatman. It has an extension in central grey core of the spinal cord. The absolutely purified self-consciousness represents Atman. The supracortical or supracosmic consciousness represents Paramatman.

Five Neural Sheaths of the Soul

The soul or Jivatman is ensheathed from cranial end in six nerve energy 'covers' in form of inverted baskets. They are, one above the the other (Fig 26.1).



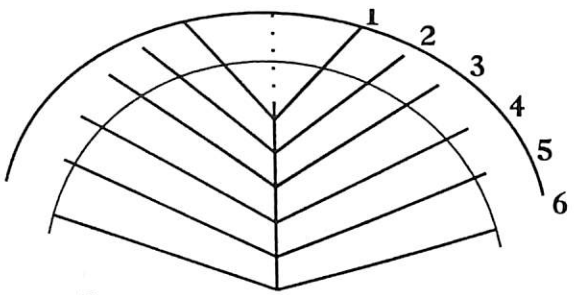
Inverted Baskets
FIG. 26.1

All of them extend caudally upto the lowest integration centre in the spinal cord. Their bottoms rest on that portion of the cerebral cortex which is involved in generation of self-consciousness from the sixth layer to the first layer. These sheaths of the soul, in everted form, look as baskets put one inside the other. Probably , these five neural sheaths have been described in Patanjali Yoga system, as 'Annamoy Kosha', 'Pranamoy Kosha', 'Monomoy kosha,' 'Vigyanmoy Kosha', 'Anandamoy kosha' and 'Brahmandham' respectively.

Exposure of Jivatman to Paramatman

To expose Jivatman (Brainstem-cortical 'current') face to face to Paramatman (S.C.C), the five sheaths need to be everted. Inside should be out. This eversion is done during Supreme Consummation, following evolutionary ascent of self-consciousness and the Descent of the Divine. The self-consciousness evolves from sixth cortical layer to first cortical layer. One gradually becomes aware of this 'iron-clad' of energy barriers made up of neural circuits. A highly evolved self-consciousness, evolved to the topmost layer of cerebral cortex, undergoes transformation by unconditional, total and complete surrender to supracortical consciousness. The Supreme Consummation synchronizes Paramatman, Atman and Jivatman.

Opening of Self-consciousness and Eversion of the Sheaths



Everted Baskets; Umbrella, inside out.
FIG. 26.2

During Supreme Consummation, the self-consciousness itself gets open to the cosmos and in the process all 'baskets' are everted (Fig 26.2). (Ordinarily, it happens when cloth of an umbrella is pulled from above symmetrically, till inside becomes out). The upright baskets can then 'hold' some amount of 'supracortical current' pouring constantly over the cerebral cortex. When it does so, there is the communion of integration centres of human neuraxis with supracosmic consciousness. (Also here compare the figure of Inverted Neuraxis and integration centres, Fig. 26.3).

Levels of Integration in Yogic Body

A. Outside the Cerebrum:

Cosmic Integration Centre:

B. At the top of the Cerebrum:

Supreme Biological Homeostat

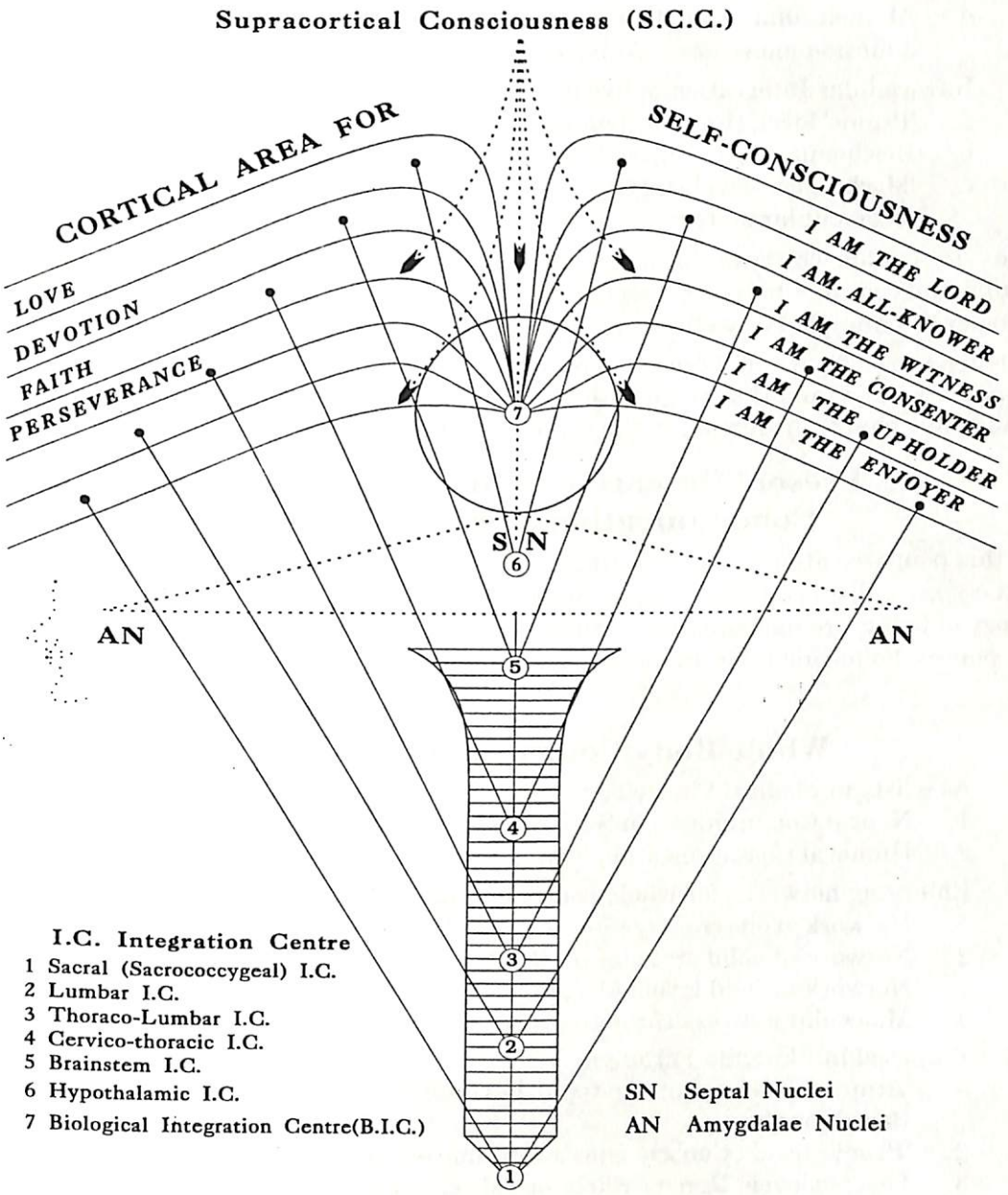
a. Integration of love, sex, ego, life, death.
b. Integration of right and left hemisphere, upstairs and downstairs of the cortex, and of the inside and the outside of the brain.
c. Integration of Grace, Values, Instincts (reticular core) Reasoning (cortex) and Feelings (limbic pleasure triangle).
d. Integration of diffuse pouring on the cerebral cortex.

C. Integration of brain and spinal cord :

Connection of six layers of cerebral cortex to six integration centres of human neuraxis (Fig 26.3).

D. Cell to cell Integration:

a. Consciousness-Antematter meridians.
b. Psychic skeleton.



Integration Centres in the Human Neuraxis
FIG. 26.3

c. Bioconductive connectional system (BCS).
d. At molecular level through cell adhesion molecules (CAMs), substrate adhesion molecules (SAMs), cell junctional molecules (CJMs).

E. Intracellular Integration of five organelles, at
a. 'Pranic' level, through *conformon, photon, phonon, neutrino.*
b. Biochemical level, through protein kinases, particularly protein kinase-C.
c. 'Mechanical' level, through cytoskeleton, integrin, intercellular junction, intercellular matrix.

The cytoskeleton which was hitherto considered to integrate at 'mechanical' level, has been now found out on the basis of recent scientific evidences to be the site for 'quantum entanglement', 'entangled wave function' and even the site for (?) superconductivity.

Further, the levels A and B are synchronized by Supreme Consummation, B and C through corticospinal tracts, C and D through antegrade and retrograde neurotransmission, D and E by mechanism of signal transduction in the cell membrane.

Present Research Points towards Subtler Communication System in the Body

At this point, we are set to review the modern trends which point towards the 'Life Force', which the spiritualists call 'Prana'. The neural and humoral networks, as known in medical physiology of today, are inadequate to explain 'Prana'-energy and naturally, the search is on at various planes. Following table summarizes the communication system at various levels.

Whole Body Communication Systems

I. As exists in Medical Physiology :
1. Neural Communication System
2. Humoral Communication System

II Emerging networks for whole body communication :
1. Network at electromagnetic level : BCEC & VICC (Prof. Bjorn Nordenstrom)
2. Network at solid state level : B.C.S. (Prof. Franco Bistolfi)
3. Network at field level : Morphic field (Prof. Rupert Sheldrake)
4. Molecular network through CAMs, SAMs, CJMs (Prof. Gerald M. Edelman)

III Proposed in Akhanda Paradigm :
1. 'Atmnic' level : Jaganmangal Paribhraman (The originator of Akhanda Paradigm)
2. 'Pranic' level : Consciousness-Antematter meridian (Mukhopadhyay A.K.)
3. Psychic level : Psychic Skeleton (Mukhopadhyay A.K.)

All of these are 'open' to the supracosmic plane through the top of the brain.

Three Tier Whole Body Communication System in the Akhanda Paradigm

The Akhanda Paradigm proposes a three tier whole body communication system with its fountain at the top of the brain, at the site of biological integration centre. Those are, at 'Atmnic' (self-consciousness) level, (the jaganmangal Paribrhaman), at 'Pranic' level (consciousness-antematter meridian) and at mind or psychic level.

A. The spiritual inner journey at 'Atmnic' level; The Jaganmangal Paribhraman :

Envisaging a massive Divine manifestation on this earth, as a part of His total scheme of Human resource development, Akhandamandaleswar Sri Sri Swami Swarupananda Paramahansa Dev disclosed to his followers the route of this inner journey to make the body conducive for the Divine.

It begins with detachment of the Dweller (the self-consciousness, the 'Atman') from the dwelt, the human tabernacle. The 'self' imbibes Divine's Love, meant for manifestation through this body as sacrifice for the entire ecosystem.

The journey of 'self' commences from the perineum, the root of genital organ, down along the left leg to the toes, then moving up along the waist, spine, and curving down the left arm, hand, fingers, moving back to the spine up to the head, a clockwise rotation around the vortex of the skull and then coming down through the neck, right upper limb, spine, waist, right leg and finally back from where it started.

During this journey, the 'self' infuses the zeal for sacrifice in every possible anatomical and physiological planes to every tissue, cell, molecule, atom as desired by the Divine. A sense of surrender to prepare oneself as the instrument for manifestation of the Divine, conditions the body for the same.

The journey may be continued as many times as desired, with spine in anatomical position and legs in lotus posture. It may be preceeded by some perineal exercises.

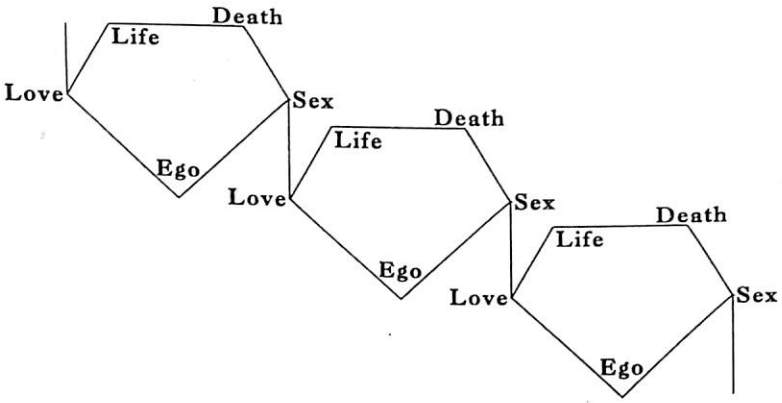
For the ladies, the route of the journey is said to be the reverse. It moves up along the right side of the body, turns anticlockwise on the vortex and comes down along the left side of the body.

B. The Communication at 'Pranic' Level through Consciousness-Antematter meridians :

There is a subtler way of integrating the whole body along the consciousness-antematter meridians. Every cell has one consciousness pole and an antematter (see page 118) pole. The consciousness pole is towards the 'higher' and the antematter pole is towards the 'lower' in cellular hierarchy. The integration originates in the cortical neurons through integration of supracosmic forces with the biological forces. The subtlest form of subtle energy, a complex presence of *conformon, neutrino, photon,* and *phonon* each in their consciousness dimension, 'flows' downwards from the top to the bottom, from the receptor at the cortical neurons to the target cells. This flux of consciousness-antematter, from the top to the bottom is considered the 'Life Force' in this paradigm.

C. The Communication through Psychic Skeleton:

When we extrapolate the five elementary phenomena in cell biology, and say that the cell membrane represents Love, DNA-replication apparatus Sex, DNA-transcription and protein synthesis, the Life, lysozome the Ego, and the mitochondria, the Death, we find a pentagon of cell psychology.



Psychic Skeleton
FIG. 26.4

The pentagon of one cell is linked with pentagon of the neighboring cell through the bonds of Love and Sex, the bonds of sacrifice and expectation.

The highest in the hierarchy are the cerebral cortical neurons. Their bonds for Love remain ever open in the cosmos. When the cells in the sole of the foot become aware of the fact that their neural representatives have supracosmic connection, then only the supracosmic things become earthly.

The systematic conditioning of the infrastructure of the body along the psychic skeleton for making it conducive for Grace by repeated practice of inner journey, along a well defined pathway is relevant in maintenance of psychospiritual health. This done correctly, abolishes disease and brings a positive health.

Brief Review of the Four Emerging Networks

1. BCEC and VICC :

The plasma (blood) circulates in an extensive network of circulatory channels, the arterial, the capillary, the venous and the lymphatic systems. Many of the plasma components are in ionic state. Because of the plasma flows through closed network, it generates an electric current (biologically closed electric circuits) which has its own conduction, transduction and continual transformation at different phases. The charged plasma also moves from closed vascular system to interstitial space and again comes back to capillaries, through either veins or lymphatics. This is vascular interstitial closed circuit (VICC). If life is considered to be in an electromagnetic pool and it is through this electric network the outside EMF can influence body-electrics and physiology. This is, in brief, Prof. Nordenstrom's view for an electromagnetic communication system in the ecosystem of life.

If one extends this concept into the brain, then the blood vessels in the brain are seen to be active participant in grandeur of consciousness.

2. B.C.S. :

Bioconductive connectional system of Prof. Franco Bistolfi, establishes an amazing connection of histomorphology, chemistry, biophysical structure, solid state physics and finally, 'Life

in electromagnetic pool'. Four components of B.C.S, according to him, are cytoskeleton, intercellular junction, intercellular matrix and integrin receptor on the cell membrane. Which has been hitherto considered only a mechanical support to the parenchyma, has been found by him to be actively involved in conduction and transduction of signals (piezoelectric, pyroelectric and photon/phonon transduction). He also mentions that B.C.S has some overlapping with Kroy's third cybernatic system.

If one extends the concept of B.C.S in the brain (of course with modification for absence of fibroblast and collagen which have been replaced by glia and glial fibrillary protein, then seven glia out of eight cells in the nervous system, which were hitherto considered as supportive cell or responsible for production of myelin (oligodendroglia), or for maintenance of integrity of blood brain barrier (astroglia), get a new life and become active participant in consciousness grandeur. The initial peripheral consideration that life exists in electromagnetic pool, is elevated to the central reality that human brain is the sounding board of Mother Nature.

Prof. Roger Penrose, the famous oxford mathematician also considers that the cytoskeleton in biological system could be a place for 'quantum entanglement', 'the entangled wave functions' and may offer explanation of nonlocality in biological phenomena. He expressed this view in a symposium on Reductionism in Science and Culture, held in September, 1992, at Cambridge, England. In 1994, this view is re-emphasized by Prof. Stuart R. Hameroff, an anesthesiologist of the University of Arizona Health Sciences Centre, at the Tucson Meeting and in his article, entitled, "Quantum Coherence in Microtubules : A Neural Basis for emergent Consciousness" in the first issue of *Journal of Consciousness Studies*, 1, 1, 91-118, 1994. He proposes,

> "Microtubules are appropriate candidates for quantum coherence leading to consciousness because their subunit conformation (and consequent function) can couple to quantum events in hydrophobic region, their paracrystalline lattice structure and symmetry promote long range order and their hollow cylindrical core can lead to water ordering with wave-guide super-radiance and self-induced transparency."
>
> — Prof. Stuart R. Hameroff

3. Morphic Field of Rupert Sheldrake :

This is the only interconnection at the level of 'field' for organizing the process of morphogenesis and communication between different cells and tissue.

It is interesting to note here that with those three communication systems on board, there is an immediate generic shift of Paradigm from Life-as-Chemistry to Life-as-Physics as proposed by Prof. Dwight Bulkley of Seattle Institute of Life Sciences, USA and this shift is inescapable for exploration of modus operandi of consciousness.

4. Communication at Molecular level :

The communication systems stated above at biophysical levels need to be grounded at molecular level where the chemistry begins. The neurotransmitters, the neurohormones and the hormones are there. In addition, a family of molecules have been discovered by pioneering research of Prof. Gerald M. Edelman from immunoglobulins to cell adhesion molecules, substrate adhesion molecules (e.g. fibronectin, cytoactin, cytoactin binding proteoglycan etc.) and cell junctional molecules (e.g. integrin). This family of molecules have an evolutionary back-

ground, could be traced from invertebrate to vertebrate and are important in topobiology where the spatial location of a cell determines its structural organization and functional differentiation. The emerging branch of psychoneuroimmunology offers hints towards this direction. The Akhanda Paradigm, here, envisages the discovery of *subtle chemicals* for such communication.

Concluding Remarks

At the present state of affair, all four frontiers mentioned above and those three proposed by Akhanda Paradigm need to be explored. Basically I feel, all seven systems point towards 'Prana' at different levels, as mentioned. With the fountain open at the top of the brain, the three-tier communication system of the Akhanda Paradigm, at Consciousness level, Pranic level and Psychic level need to rest on the advanced biophysics at field level, solid state level and electromagnetic level for revelation of the most fundamental, phylogenetically and ontogenically oldest system to conduct, process and transduce the primary signal, the 'Prana'. The molecular level communication could be understood in proper perspectives only then.

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PART - VI

The Future Trends

Six fundamental questions in Philosophy

Questions:	*Relevance to:*
1. Who am I?	**Consciousness**
2. Where from I have come?	**Space**
3. What I am supposed to do?	**Purpose**
4. How long I am here? **How long I will be here?**	**Time**
5. What, when, where is my fulfillment?	**Ananda**
6. How is it going to happen?	**The Process**

Chapter 27

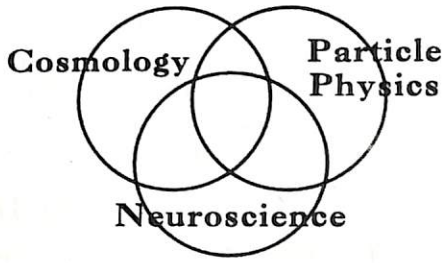
From Space Time to Consciousness

The Difficulties in getting the Solution

The problems of space and time are difficult, serious and studded with riddles.

1. The crux of the problem is how can one solve it when oneself is entangled in the problem? How can one open a knot when one's kinetic part of the 'self' is knotted? One must be outside space time to solve the problem of space time. The universe we live in is bounded by space time. So, one can solve this problem only when one makes a trip, at least once, outside this universe to have an experience of sensing the Essence of the Multiversity. Only keeping this Essence as a constant, one could have a trip outside this universe. As 'big' is one's constant, that vast is one's deduction. When the Essence of the Multiversity is the constant, one deduces the whole universe.

2. The solution of space time is in the triangular interloop (Fig. 27.1) of cosmology, particle physics and neurosciences. On the way, there are different phases and phase transitions. There are phases, where both scientist and mystic have doubts about the existence of 'life'. Moreover, until one succeeds to come back within space time, it would be impossible for one to express it objectively. It is meant to say that one has to take *rebirth in the same body* to offer an objective description of the solution.



Interloop of Cosmology, Particle Physics and Neuroscience
FIG. 27.1

3. The problem can not be sôlved only by objective or only by subjective method. The solution lies in simultaneity of the both ('omnijective', in the language of Michael Talbot). A subjective mystic can solve the problem at any moment. Unless he is objective

to, he cannot demystify it. Demystification means to put one's experience objectively for others. A scientist with accurate objectivity may realize the problem, may start with a cognizing 'self' and highly evolved intellect, but finally may fail to 'dissolve' the kinetic part of 'self' or some of his constants (e.g. velocity of light). A mystic with accurate subjectivity dissolves the difficulties many a times but finds it inexpressible in the language of existing science in an objective way. This is the essence of the obstacles in effort to solve the problem, may it be by Albert Einstein, or by a Zen Master.

4. The space time problem is intimately linked with the problem of 'self'. With refinement, evolution and transformation of 'self', one's vision towards the solution changes varies.

If one thinks that one's problem of space time will be solved after studying my statements, then one is on a wrong step. One has to, and one will solve it oneself. This paper may be of some help during the onward journey. After one successfully comes back, one may totally discard my views or else improve upon mine.

A Summary of the Phases in the Way from Space Time to Consciousness

Our starting point is the world of three dimensional space and time, as perceived by the sensory system of the human brain.

To go to the centre of the vortex (Fig. 27.2), the consciousness, there are different phases of growth, development, evolution and transformation in the brain too, particularly involving the neocortex, limbic and the reticular systems.

Following the four dimensional world, there is apparent void, followed by the long dark tunnel leading to the space/time (frequency) zone. Penetrating through the frequency zone, one lands up in the great void (see page 210-11).

On the other brim of the great void, the spacetime is not there. There is 'ghost' space time. The only hope is a perception that the ghost spacetime is chained with the **Cause.** Then, there is tunnelling again. What emerges on the other side of the tunnel is infinityeternity inseparable from the Cause-Immortality. Many people call it 'no space no time' zone, because even the ghost of spacetime is not traceable. The ghost of spacetime during passage through tunnel of *cause* is enlivened to eternityinfinity. In fact, it is the zone of infinity-eternity-immortality. The cause Immortality is the Mother Nature. Her immobile front is the centre of the vortex, the Consciousness. Ananda is there. In one word, it is *infinity-eternity-immortality-ananda.*

The Details of Different Phases

1. The Four-Dimensional World :

The world is bound by three dimensional space and time. Our sensory system in the brain is capable of perceiving it in the mind. In fact, space time are products of mind. When the mind is 'destroyed', the space time are also 'destroyed'.

Space and time,
Are sensed by the mind
In our brain.
This king and the queen,
Moves with the wind
In the mind's drain.

They are ghost,
And cannot boast
When the mind ends.

2. The Apparent Void : The Uncertainty :

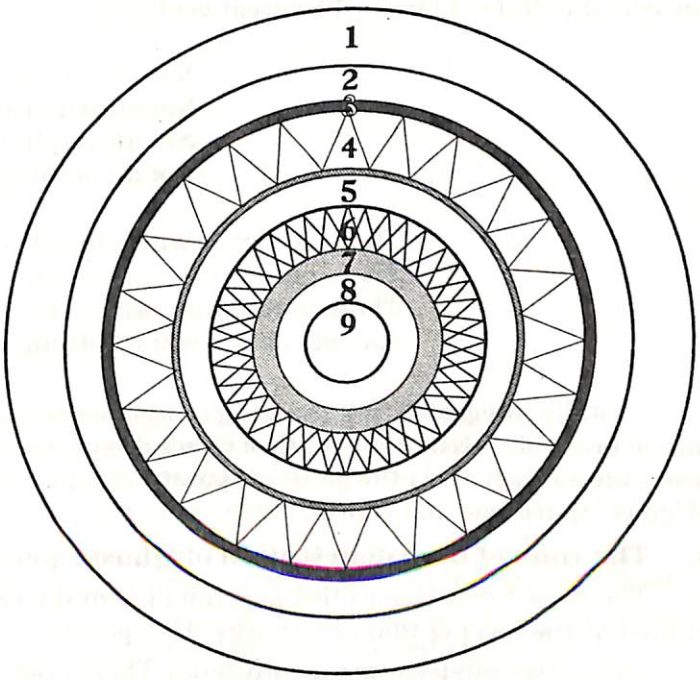
As soon as one tries to disrupt the entangling chains of four dimensional spacetime, one faces uncertainty. The more one puts effort, the uncertainty becomes vaster and deeper. Cosmologically, the 'self', in this phase, is in interstellar space. Most of us retreat, prefer to come back and label this as exercise in futility. Very, very few, desire to enter the dark long tunnel.

3. The Long Dark Tunnel :

The uncertainty of apparent void is tunnellized then. The hidden variables of Quantum Mechanics (Prof. David Bohm) are removed. The brain perceives it as if the 'self' crossing a dark long tunnel. At the other end of the tunnel, there is the frequency zone.

4. The Space/Time (Frequency) zone :

After crossing the apparent void through the long dark tunnel, one enters the frequency domain, cycle / sec (space/time) zone. The events, here, are represented by frequency only. In every point, the entire whole is represented in structure and in dynamicity. The physicist (Prof. David Bohm) talks of holograph here. The Stanford neuroscientist, Prof. Karl Pribram's declaration that 'the brain is a hologram' appears true in this phase.



1. Space Time World.
2. Apparent Void.
3. Tunnel.
4. Space/Time.
5. Great Void.
6. Interpenetration of Space Time & Cause.
7. Shadow of the Divine.
8. Mother Nature.
9. Consciousness

Seven Universal Shields around Consciousness

FIG. 27.2

5. The Great Void :

From space/time zone, one enters the great void, where space and time merge into spacetime. One is absolved from the voices of the world's desire condemning every finite thing into nothingness*. Only 'attachment' with space/time (frequency) zone, is through 'witness' consciousness.

This region is the so-called 'death'. Cosmologically it is intergalactic nebula, where

The Cause is silent,
And the time is still.
Nothingness in life,
The emptiness under the feel.

In reality, it is not death! The concept of death dies here for a brain which has been evolving towards the State of Grace. The great void is not the end. It is the beginning of a new future.

Not all silence is swallowing up of noise.
Not all stillness is engulfment of time.
Not all emptiness is the subatomic void.
Not all nothingness is absence of rhyme.

There is silence which broods Cause.
There is stillness, generating time with pause.
There is void from which the universe is born.
Ananda shines when nothingness* is torn.

A totally integrated 'self', seeking consciousness, only for consciousness, with an infrastructure of brain elevated to the State of Grace does cross the great void. There, the *spacetime* is not traceable as such. Only the ghost of spacetime is palpable. There is a feeling of interpenetration of 'ghost' *spacetime* and Cause.

6. The zone of interpenetration of 'ghost' spacetime and Cause :

The superforce, the unified four fundamental forces of nature, the GUTs and supergravity unified at the level of Planck's energy (10^{19} proton masses) is left behind, in the great void.

Language collapses into insufficiency. There is an impalpable fullness. The 'ghost' *spacetime* is seen attached to *the Cause.* The Cause Immortality has been seen 'alluring from a recondite Supreme'. "A zero made pregnant with boundless change" (Sri Aurobindo) - the holoflux of the universe.

7. The Tunnelling of Vacuum ; The 'Shadow' of the 'Divine' :

The selfless 'self' seeking consciousness for nothing else but consciousness leaves the background radiation of three degree Kelvin and enters the tunnel.

The elementary energies strip off their 'ego', the clothing of their properties.

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* "Let us fathom it, whatever may befall
In this, thy nothing, may I find my All" - **Goethe**

The ghost spacetime is tunneled through the Cause to emerge as *infinity-eternity-immortality*. The ghost *spacetime* is enlivened to *infinity-eternity* and the Cause is transformed into immortality.

"A vastness brooded free from sense of Space.
An everlastingness cut off from Time."
— Sri Aurobindo

8. The Infinity-Eternity-Immortality zone : The Mother Nature :

Many people call it, no space no time zone because even the ghost of spacetime is not traceable. In fact, it is the zone of infinity-eternity-immortality. Here the fundamental fields, forces, energy are completely stripped off their properties. Every abyss is seen, every crypt is revealed. The naked beauty. Only an incarnate 'Hope' prays for the Grace.

You are the water to the tendermost root of my love
We are to sow,
Your shower of Grace and warmth of passion,
Is essential for it to grow.
The Love of Mother Nature,
Desired for worldly creature.
We have patience to see
What it turns out to be !
We know, this emptiness is the gate of your fort.
This Nothingness is a pleasant discomfort.

Your silence bears pain, before something is born.
Welcoming a mighty bright sun in a clean silent morn.
Oh ! Mother, Let it be so !
This life, don't let it go.

Mother Nature scrutinizes the genes. Every corner is cleaned. In every abyss, She pours wisdom, harmony, might and perfection. Every fragment, every fraction of genes is made conducive to express bliss. The genes are 'processed' for a mighty Descent of the Divine.

This preparation is a must to have an entry in the centre of the vortex - the Consciousness.

9. The Consciousness :

This is the centre of the vortex. Zones eight and nine are inseparable. Consciousness-Mother Nature are an inseparable chum. In fact, this is the zone of *infinity-eternity-immortality-ananda*, the Essence of the Multiversity, from which several universe(s) are born.

There is no peer, no second, no parallel no equivalent. 'A fathomless hush', 'a bournless sea', 'the mystery which none could ever pierce' (Sri Aurobindo).

Rebirth in the Same Body

Ananda is able to transform everything of the human body; its genes, its soul, its nature. When one's nature becomes Mother Nature, one is consciousness. Then a welcome back to the world with a Divine soul in human body, as a spiritual being to have human experiences. The vibration rings in the ear,

As long as I am alive and here
From Me, you will continue to hear,
The song of creation, vibrating in the tendermost chord,
Lovely love alive in the desire of the Lord.

One comes back with a new space, new time to serve the Cause of the Divine - to sacrifice the life for elevation of others to the phase of Ananda.

Frontiers for Research

What we need is to do further search, research on the following statements.

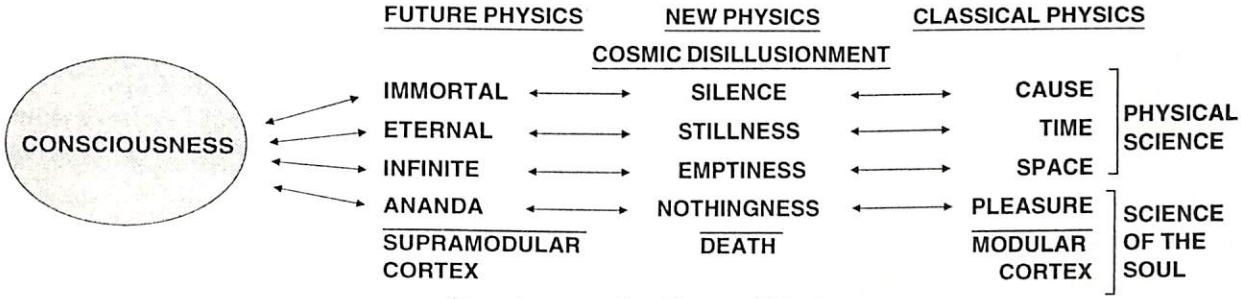
1. What we have described is a nonlinear linearity and a linear nonlinearity; the spiral, the intertwining of space, time, cause, pleasure; the intertwining of infinity, eternity, immortality, ananda; the yogic serpentine force, *the kundalini*. Roger Penrose's 'Twister's space', comes in my mind when I follow the intertwining spirals to their point of origin (see also next chapter).
2. During this passage through the zone seven and eight, I am also reminded of Stephen Hawking when he tries to find out an explanation for the Supreme mechanics at the edge of the universe. He feels that the scientist "could define God as the edge of the universe, as the agent who was responsible for setting all this into motion" and "it's very difficult to prove that there isn't any edge". In the Akhanda Paradigm, at the edge of the universe, the determinant is Mother Nature.
3. We have described certain landmarks with some words. We need to replace these words with force, fields, energy, information or (?).
4. We need to know the mechanism of tunnelling, the process in the tunnel, the mechanism of conversion of space/time to spacetime, from spacetime to its 'ghost', the enlivening of ghost to *infinity-eternity-immortality*.

Chapter 28

The Universal Serpent Intertwining of Time Space Cause Ananda

Different ways of looking at the Four

1. Space Time Cause Pleasure qualify the nontranscendental aspects of consciousness. Infinity, Eternity, Immortality and Ananda are transcendental qualities of consciousness.



Consciousness in a Dozen of Words

FIG. 28.1

2. In the previous chapter, we have discussed a nonlinear linearity and a linear nonlinearity in relationship of Time, Space, Cause, Ananda.
3. In figure 27.2, we have tried to display this interrelationship in a circle or a sphere. The same figure could be visualised as cross section of a rotating cone of which apex (vortex) represents Ananda and the zone one as the base.
4. This relationship could also be represented by four helices, intertwined with each other, with innumerable contacts (space) for innumerable 'times' for the purpose (cause) of creation of this universe and for creation of life.

The Mystical Spiral

At the outset, we must say that it is a spiral without a beginning, without an end, beginning everywhere, ending everywhere. It is infinitely small, infinitely large, negligible in time and eternally vast. It is an immortal spiral. It may be nothing to those who do not wish to understand it. It could only be described by all sorts of intertwining of words, for it is really so. The statement appears mystical and it is really such, for we do not yet have the proper language to describe it. Our language expresses the measurable, bound by space, time and purpose or the cause.

The Measurable Serpent

So, let us take a measurable length of this spiral, having a terminus, a beginning and the intertwining segment in between, and try to express with existing knowledge through the vehicle of language we have.

The Terminus :

Time, Space, Cause, Ananda 'terminate' in Cosmic Integration Centre (CIC) where Space is not Space, Time is not Time, Cause is not Cause. All of them have stripped of their 'personal' properties and blended with 'naked' Ananda in Consciousness.

In language of modern physics, cosmic Integration Centre is where Phon-E-C (Phonon equivalent for Consciousness), Phot-E-C (Photon equivalent for Consciousness), Conf-E-C (Conformon equivalent for Consciousness) and Neut-E-C (Neutrino equivalent for Consciousness) meet.

The Beginning :

In the beginning, there are four separate threads, hanging separately without any relationship, as if they never had or they could ever have any relation.

Intertwining :

The range of intertwining varies from absolutely simple to most complicated one. There are innumerable contacts in innumerable situations. In facts, contacts are 'infinite', where there are interpenetration of Time, Space, Cause, Pleasure. One simple diagram (Fig. 28.2) is given below.

The Four Landmarks :

The shedding of the respective properties by physical equivalents of four hands of Consciousness are not simultaneous. It happens in sequence and this sequence makes the landmarks.

The Neutrino retains its properties almost up to the terminus. The phonon sheds it earliest. The photon does it after phonon and then the turn of Conformon comes (Fig. 28.2). So there are four landmarks, the first for Phonon (Landmark 1), the second for Photon (Landmark 2), the third for Conformon (Landmark 3) and the fourth one is for Neutrino (Landmark 4).

Implications of the Landmarks :

Following landmark 1, the Time is still.

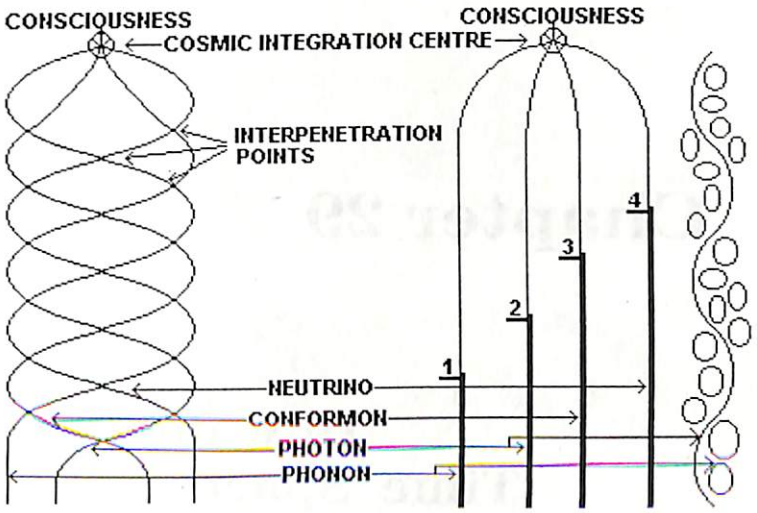
Following landmark 2, the Space is empty.

Following landmark 3, the Cause is silent, and

following landmark 4, there is nothingness.

The Photon, without intervention by properties of the Phonon, the Conformon without intervention by properties and effects of the Photon and Phonon, the Neutrino devoid of surrounding effects of Conformon, Photon and Phonon and finally the Consciousness with all the four, stripped of their 'ego', need extensive investigations by the scientists.

Sri Aurobindo, a great mystic, probably uses the following phraseology to describe these sites of contact or interpenetration. For example, 'Timeless Eternity', 'Spaceless Vast', 'The Cause Immortal' etc.



Measurable Serpent

FIG. 28.2

The problem to express these biological feelings lies inherent in its very Nature. We are also obstructed by our space time bound language.

The Mother Nature

In the whole discussion, what appears most intriguing is the Mother Nature. She does Her outdoor game with Time, Space, Cause, Pleasure. Inside, She is Eternal, Infinite, Immortal and Ananda. In the transcendental form, she portraits stillness, emptiness, silence and nothingness.

Awakening of Kundalini - A Beginning

This mystical serpent of the four could be considered 'Kundalini' of the Hindu yoga literature. This serpent is also necessary for 'life' on this earth. It is in every cell, every tissue, every organ, every system of all animals. The highest manifestation and expression has happened to be in the human being, a supracortical potential. Following supracortical opening, one becomes aware of this serpentine force playing through the neuraxis; some people experiences the awakening from above, someone from below. Both definitely experience it in the heart. This is what happens in the beginning of the awakening of Kundalini.

Chapter 29

How do we Sense Time Space Cause Ananda?

The Meaning of Organization

The first 'molecule' which can self organize, has its time-cue, space-cue, cause-cue, ananda-cue. The organization means orientation of space and time for a purpose. In completion of this purpose lies the pleasure. Self-organization continues till perfect perfection is achieved and the ananda arrives. When the perfect perfection happens in small bits, the bit which achieves this is offered autonomy. The desire to come out of a customary automation is a function of consciousness.

The situation becomes complex when two or more such units desire to live together. The space-cue of one makes bond with the time-cue of other unit and vice versa to make a common space time of the system. It does not last if there is a conflict of purpose. The purpose continues to differ if the ananda-cue of the units do not synchronize. It is the ananda-cue which is the final determinant of the purpose and it is the purpose for which the organization is meant.

Antematter in Cellular Organization

Every cell also has all these four cues. In the present paradigm, we assign this work to antematters, namely to the photon, phonon, conformon and neutrino.

The phonon is an integral element of the time-cue of a cell. The photon is the same for the space-cue. Both phonon and photon are integral part of Intracellular Dissipative Structure (IDS) (Prof. I. Prigogine). The conformon, (Prof. I. Prigogine), the only energy known to perform a goal oriented work is an integral part of the cause-cue, known to be confined in the genes and enzymes of a cell. The neutrino is there to keep three cues far from equilibrium so that the whole system remains thermodynamically open.

Recent analysis of the biological clock from diverse organisms has suggested that transcription of DNA and translation of mRNA are integral part of the clock's loop. (*Science, 263, p 1510, 1994*). The Akhanda Paradigm searches for an integration of consciousness and genes not only

at molecular planes but also at subatomic biophysical plane through four phenomenal hands of consciousness.

Thè Organization in a Multisystem Being

The cells are associated, grouped or homed as tissue, an organ and a system for a long range coherent activity. This grouping, homing and association happen according to the meridian laid down by essential cues. An axial hierarchy is maintained from the centre (the central nervous system) to the periphery (peripheral cells). These meridians have been called Consciousness-Antematter meridians.

We, the cortical beings, are one with the oscillation of supracosmic environment on this earth. We are thermodynamically open in relation to the supracosmic current (consciousness →cosmic integration centre → unrecognizable antematter →recognizable antematter) through our cerebral cortex. In the human brain too, there are time-cue, space-cue, cause-cue, ananda-cue for the whole body.

Distribution of Four Cues in the Brain

So far, neuroscientists have been able to identify some circadian pacemakers in the hypothalamus. They are connected with the retina and other endogenus pacemaker neurons and other visceral enteroceptors. For the coming generations of neuroscientists, the following paragraphs could be helpful.

The four 'cues' could be described :

A. In relation to lobar anatomy of the brain.

B. In relation to upstairs and downstairs concept of cerebral cortex with a reference to hemispherical bias.

C. In relation to axial hierarchy, lateral slope and centrifugal flow of nerve energy.

D. In relation to the transcendental core.

A. 'Cues' in relation to Lobar Anatomy of the Brain :

The occipital lobe is mainly concerned with time-cue.

The space-cue is mainly in the parietal and temporal lobes.

The cause-cue is homed in the frontal lobe.

The parietal lobe is the site of integration.

When cosmic integration centre (five limbs; consciousness, conformon, neutrino, photon, phonon) makes love with the biological integration centre (five limbs: love, sex, ego, life, death), Supreme Consummation is the outcome. It involves all lobes of the brain.

Ananda-cue is in the limbic nuclei (neurological pleasure triangle). Ananda is the biologized cosmic consciousness at the level of limbic nuclei. (Amygdalae are in the temporal lobe).

B. 'Cues' in relation to *Upstairs Downstairs Concept* of the cerebral cortex and in reference to Hemispherical bias :

The cerebral cortex has been divided into downstairs (modular) and upstairs (supramodular) cortex. In between them, there is transcendental core. The upstairs is 'in link' with supracosmic consciousness through the 'transformational hinch'.

The phononic current in the circumneural spaces of modular cortex could be one of the factors responsible for time-cue of the human brain; in the categorical hemisphere, it is for perception of the linearly flowing time; in the representational hemisphere, it is for circularly flowing time.

The ceaseless, random photon jump amongst the infinite number of electrical dipoles in the dendritic mat of upstairs of cerebral cortex could be one of the factors, responsible for the 'sense' of spaceless 'vast' in the human brain. The left hemisphere could be responsible for centric or eccentric space sense and the right hemisphere is responsible for noncentric (or omnicentric) space sense.

As one moves towards the transformational zone, one meets the cause-cue in the neuronal genes. The cues are maintained far from equilibrium by the ananda-cue, which in turn, is maintained by the neutrino shower on the dendritic arborization in the upstairs of the cortex.

C. 'Cues' in relation to Axial hierarchy, Lateral slope and Centrifugal flow of nerve energy :

The central nervous system has not only an axial hierarchical organization, but there also exist lateral parallel arrangements.

The existence of an axial hierarchy in functioning of brain is responsible for time-sense. Lateral slope with parallel arrangement is responsible for sensation of space and its dimensions.

Had the existence of axial hierarchy been stilled due to vertical synchronization, there is a 'lake of time'. Following such synchronization the centrifugal radiation of nerve energy is the cause of perception of vastness, 'a vast lake of time'. This centrifugal radiation at the level of the limbic pleasure triangle is responsible for 'ananda'. Ananda is further magnified due to brooding of new space, new time in the human brain by such a procedure.

D. 'Cues' in relation to Transcendental core :

The transcendental core, as shown in the fig. 1.3, has three 'spaces', the apparent void (i_A), the great void (I_C-i_C) and the Divine void (spaceless vast, I_A). In the apparent void, there is perception of time and space, in the great void there is spacetime. Towards the other brim of great void there is ghost spacetime. In the spaceless vast, there is revelation of immortality, the transcendental equivalent of cause. Ananda is there to create new space new time through the transcendental core.

My friends asked me, "You talk of Ananda,
Can you say, what do you mean?
We don't want any theory, but an
Objective definition, we are very keen".

I smiled and did not offer my older views,
For, this time I shall put it with a rhyme,
I defined Ananda, for them,
As that what creates new space new time

Human Brain has sensed Ten Dimensional Space

We were taught in our nursery classes, in the context of learning numericals, the number '10' in reference to the ten dimensions of space. Later we learned the fact that there are ten dimensions of space has been mentioned in Vedic literature. This was revealed to the Seers, at certain stage of elevated level of consciousness, whose brain had been moulding towards the State of Grace. In the twentieth century, Kaluza and Klein have pointed out that the space is ten dimensional. To make it 'sensible' for all, it is just matter of time. The wonderment is the fact that the human brain is capable of 'sensing' ten-dimensional space.

Space and Time are Products of Mind

What is Mind ? It is what senses space and time. The ability to sense space and time is one of the most objective criteria for identifying Mind. Sir Albert Einstein never comprehended space and time as separate. To him it was *spacetime.* During supracortical opening, the mind is destroyed and one goes through spacetime, ghost spacetime etc., etc. To a Supracortical Autonomy (Sadguru), it is *infinity-eternity-immortality-ananda.* During later phases of transformation, a new Mind is formed. At that phase, the space and time are instruments of the Divine. The mind is then a vehicle of consciousness.

Space and time,
Are products of Mind.
In our Brain,

This King and the Queen.
Moves with the wind,
In the Mind's drain.

They are ghost,
And, cannot boast,
When the Mind ends.

They are convoy,
For the Divine to enjoy,
The supracortical trend.

Chapter 30

The Great Void From the Angle of New Physics

"Imagine borrowing an atom from, for example, a hand. For the sake of convenience let us accept the Bohr model of the atom, magnified so that the nucleus is the size of an apple — where would the next atom be? Between 1,000 to 2,000 miles away! Looking upon our bodies on this scale we would see a vast universe containing many millions of trillions of atoms forming billions of galaxies. If the nuclei of those atoms were shining, as they are centres of energy, we would confront a vast, celestial, starry sky of unimaginable spaces. So you see, our body, of which we have only a statistical perception when using our senses, is actually a great "void" with little centres of energy in forms of atoms dispersed at enormous distances. One biological cell contains many millions of galaxies of atoms."

— Andrew Glazewski,
the late scientist-priest of Britain. The key figure in founding 'Scientific and Medical Network', UK.

'There is no void. It is an impalpable fullness', - is the utterance from Mother Nature. The nature of all of us, however, is not Mother Nature inspite of the fact that all have the potential to transform their nature into Mother Nature. During our effort to get out of this three dimensional world and the onward journey towards that n-dimensional abstract *the Love* we do encounter the phase of void. In the chapters one and twenty two there is mention of three voids; the apparent void, the great void and the Divine void (the spaceless vast). Here we will concentrate on the great void.

Definition

When the boundary of the known has dissolved and the cherished unknown is yet to arrive, the phase one passes through, is the void. If one 'elevates' this 'known' and 'unknown' to the highest possible intellectual level, the void one comes across is the great void. The degree of elevation of the 'known' and the 'unknown' depends on evolutionary status of self-consciousness.

In the present paradigm, the great void is defined as a psychospiritual phase of consciousness, registered by the human brain following existential lysis and before it starts perceiving the Essence of the Multiversity.

In cosmology, it is the intergalactic nebula which leads through the horizon of the universe to the T.E. The particle physicist finds it in the quantum vacuum.

The human brain, in the zone of commonalty of circular loops of Neurosciences, Cosmology and Particle physics (Fig 27.1), spontaneously experiences the void in an unambiguous manner.

The Boundary of the Great Void

In the terminology of transpersonal psychology, the Great Void is between Sadguru (The supracortical autonomy) and the one enjoying existential lysis ('world collapse' of Prof. John Welwood)*.

In the cosmos-brain relationship, the great void is between BIC (Biological Integration Centre) and Cosmic Integration Centre (CIC). In the big bang theory, one may find it between 10^{-45} sec. and 10^{-32} sec. following the primal episode.

Hints in the New Physics

The two pillars of new physics, the Theory of Relativity and the Quantum Mechanics, have definitely hinted on the great void. Those with profound integrated right hemispheric upstair activity, the propounder of the Theory of Relativity, have described it as "space with negative pressure", the "antigravity" of Einstein. Those who are worshipers of Quantum Mechanics, with integrated left brain upstair outbursts, describe it as "quantum vacuum". Many cosmologists call it, "cosmic repulsion force" and the post-big bang scientists (e.g., Alan Guth), design the 'inflationary epoch' during this phase.

Contents of the Great Void

The void is where the time is still, the space is empty, the cause is silent and if there exists life, it experiences nothingness.

Ideally, the vacuum should be free of all particles, all fields, all forces. Practically, the quantum vacuum, though vacuum is its dominant structure, is filled with seething ferments of virtual particles interacting in a very very complex fashions. The cosmic rays abound there. There is also a glow of background radiation at 3^0 K.

The quantum vacuum is believed to be the source of all energy. Paul Davies, Professor of Theoretical Physics in University of Newcastle Upon Tyne, wittingly writes that the universe

*The Editor of Jo··· ·l of TransPersonal Psychology.

appears to be 'free lunch' and the energy in vacuum comes from the budget, financed by Heisenberg's loan.

The General Theory of Relativity, the most accurate theory for Gravity is not applicable in the great void. The spacetime (Gravity) is dissolved there. The domain of photon and phonon ends. Their remains, Phot-E-C and Phon-E-C (Photon equivalent of consciousness and Phonon equivalent of consciousness) are seen. The teeming energy in the void, about trillion times higher than what is generated in the biggest underground accelerator, offers hope for GUTs (Grand Unified Theories). There, the relation between bosons and fermions is revealed. (SUSY - Supersymmetry theory and Supergravity theory). The particles, there, behave as string. One looks for *the Cause.*

Prof. S. Inomata, the President of Psychotronic Institute, Japan, thinks it full of shadow matter, shadow energy, shadow charge. The shadow charge, according to him, is quantification of panpsychic consciousness.

Why Theorists of Physics could not Cross the Great Void?

The recent theories of physics, which have come up in late 70 and 80's, could be considered as a diary or document of how the intellect of human brain can formulate equations, can find symmetry and beauty and, make effort to unify four forces of nature. Holding three formidable constants of science as 'inviolable', their effort to make a grand unification has started at 10^{14} proton mass and finally culminated, theoretically, in 'superforce' with Planck's energy of 10^{19} proton mass*1. With this energy as constant, they have constructed the 'supersymmetry' which explains the beautiful and symmetric existence of all fundamental particles of physics (both bosons and fermions), belonging to a 'superfamily'. The 'superforce' unites all four fundamental forces of nature and states that they are different facets of one and one only. The theorists also theorize 'supergravity' in which graviton is not the only particle as 'messenger' of the gravitational force, the gravity is 'done' by those supersymmetric family of particles (163 *2 particles in the superfamily). The 'superstring' theory has thrown the idea that particles behave as spinning string. All these 'super' - theories are result of attempted sailing in the great void on the boats of Planck, Einstein and Prigogine. Even Kaluza Klein's Theory of ten dimensional space could be nicely accommodated in this great void. None of these theories, however, has accounted for superluminal motion. All of them have hold velocity of light as constant. Planck's energy is ultimate to all of them. Neither of them have completely solved the problem of Gravity.

In essence, all theorists have been trying to cross the great void holding the three constants of science as inviolable. This is the reason, why they have failed to cross the great void.

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*1 Three landmarks in energy scale:

1. Ninety proton masses : Weinberg-Salam energy; Electroweak force
2. 10^{14} proton masses; GUTS
3 10^{19} proton masses: Superforce; 11-dimensional spacetime.

*2 spin 0, 70 particles; spin 0.5, 56 particles; spin 1, 28 particles; spin 1.5, 08 particles spin 2, 02 particles.

The Trilogy of Particle Physics, Cosmology and Neuroscience

The brain in search of a common zone between cosmology and particle physics during the grand occasion of success, beyond 10^{19} proton masses energy, finds itself interlooped with both of them. Neuroscience, cosmology, and particle physics cannot be understood in isolation. All three are essential to understand any one of them.

In the great void, there is no distinction between force and matter. Here the boson* changes to fermion and vice versa. The different infinities, demonstrated by different bosons and fermions, here, have the tendency to cancel each other. (For example, the graviton-loop positive infinities are nullified by graviton-loop negative infinities). In other words, the infinities supersymmetrize each other to 'death'.

Beyond the Great Void

In reality, there is no death. The concept of death dies in the great void for the brain which has been elevated to the State of Grace (see chapter 36). The whole brain at the State of Grace is so integrated that it behaves as a single compact unit, sensing, conducting, computing, integrating, memorizing and responding to most accurate information about the genesis of several universe(s) - the information about the Essence of the Multiversity. Such a brain is successful not only to hit the target but also comes down definitely with a new paradigm for the lesser mortals like us.

Frontiers for Research :

1. The theoretical physicists, at this time, must realize that the time has come when the priority of their research should shift from 'proton decay' to 'vacuum decay'. That vacuum 'decays' has already been hinted by many theorists.
2. According to Inflation theory, false vacuum state is required to tunnel through true vacuum state. Compare the fig. 1.3. How the true vacuum (Ic-ic) is tunnellized into domain of Mother Nature-Consciousness is a frontier for research.
3. Whatever way the four forces of nature are related to each other, the key to the unified theory of this universe is not in unification of the four forces of nature but in interrelationship of three formidable barriers of science, namely Plank's constant, velocity of light and the entropy barrier. They form the cosmological pleasure triangle in ten dimensional space. In science of consciousness, consciousness is the only constant and all other constants are flux in nature. So, the interrelationship of these three constants are to be carefully looked into.
4. Prof. Prigogine's 'Conformon' also warrants a thorough scrutiny. According to Prof. Prigogine, "Conformon is Life". And he is right. In the first molecular system, that can self-replicate, 'conformon' is the answer. If 'life' comes from 'outer space', conformon is all the more important.

   The conformon is a wave package of energy carrying information (Gnergy), which

*The bosons are particles which either do not spin or have a whole number of units of spin. Fermions have half-integral units of spin. All messenger particles of force are bosons, whereas quarks, leptons are fermions. Bosons have a tendency to get together, fermions have isolationist behavior. In great void, this distinction dissolves. All of them belong to a superfamily.

can do a goal oriented work. In the galaxy formation, in the extraterrestrial genesis of life (Fred Hoyle), the role of conformon needs to be explored. Could 'conformon' also help us to solve the three problems of big bang (the 'horizon' problem, the 'flatness' problem and 'inhomogeneity' problem)? How is it related to consciousness? How is it enfeoffed to Phot-E-C, Phon-E-C. Where can one place Neutrino in this scenerio?

5. The physicist theorizes the 'superforce' and then imagine, 'I' will, one day, be able to control the superforce. I then can create a new symmetry, a new string, a new universe. But, who is this 'I', sitting inside the physicist's brain, handling such an enormous amount of information? If 'I', you, Prof. John, or Dr. Harry control the same 'superforce', what will happen then? Will there be separate universe for each one, depending on the infrastructure of the respective brain? Will such universe(s) collide or find out ways to escape cataclysm?

The frontier for research is to investigate the relationship between this 'I' and 'superforce'.

Superforce, supergravity
Supersymmetry, superstring,
'I' have designed,
Such trillions of things.

You and 'I', though,
parted by senses,
One and one only,
that's the Essence.

We will conclude this chapter by quoting Max Planck, who once wrote,

> "Science.....means unresting endeavor and continually progressing development toward an aim which the poetic intuition may apprehend, but which the intellect can never fully grasp."

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Chapter 31

The Surrender

Everyone everyday surrenders partially or completely, conditionally or unconditionally, actively or passively to a person, to some principles or values, to some norms or administration and in the process one makes oneself a loving working unit of the system. There are, however, some people who surrender to 'no-surrender' and love to continue their struggle. In this chapter we are going to discuss *surrender at the highest level* i.e. surrender to supracosmic consciousness. The crucial questions are, what is a surrender? why to surrender? whom to surrender? where to surrender? what is the feeling during surrender? what are the obstacles for surrender? and finally, what is the result of a surrender?

What is Surrender?

The process by which one's nature becomes Mother Nature is defined as surrender. The observable effect of surrender is biologization of Mother Nature in a human body. The objective parameters to gauze the process of surrender may be chosen from the yardstics of the process such biologization.

Why Surrender?

The process of surrender is essential for realization of the Essence of the Multiversity by the biological hardware in the human brain. The process reveals that you, me, he, the Essence of this universe and the Essence of the Multiversity are identical. There is a need that the heart vibes synchronously with the Essence of the Multiversity. The process of surrender fulfills this need. By the process, one's nature becomes Mother Nature and one is Consciousness.

Whom to Surrender?

By the process of surrender, one's nature becomes Mother Nature and one is consciousness. The starting point is one's 'self' and the end point is consciousness. One should surrender only to that person where this endpoint is fulfilled.

At the abstract level, one is advised to surrender to 'consciousness' and at the level of human biology, to Supracortical Autonomy (Sadguru), the personified TE.

'No surrender' is the rule of thumb, before one meets such an occasion or a person.

The surrender is always accompanied by the process of biologization and one should be cautious not to biologize anything which is detrimental for transformation of one's nature to Mother Nature.

Where to Surrender?

If the moment of surrender arrives, any place is worthy for surrender. But, for a traveller who travels from space time world to consciousness, the plane of surrender is that spaceless Vast, the zone of Immortality, the eternity-infinity-immortality zone, the zone of Mother Nature.

Infact, the process of surrender begins as soon as one enters the great void (Ic-ic in Fig. 1.3) and continues till the 'self' reaches the spaceless Vast. Without the surrender, the 'world collapse' which happens following existential lysis in the great void, could not be borne effectively. The existential lysis exposes the raw areas of basic vulnerability. The process of surrender makes the *'hi'-touch* of Mother Nature available for soothing and healing of these raw areas.

The Process of Surrender

I have reached you, with all I have,
Truth and false, all wins and lapse.
My ambition, desire, all promise, all vow,
I leave to you, for ever from now.
No revolt, no reserve, no demand, no fear,
No want, no wish, my dearmost dear,
Cherish or relish or rapture or bliss,
Divine touch, or embrace or kiss
Oh my heart ! my love ! my dearest deity !
Drop by drop, to you I empty.
All remain yours, nothing I know.
My absence, my presence, are all your show.

The Feelings during Surrender

The feelings during surrender are very difficult to express, because the person who has been surrendering is merged into his business. When he comes back, he is a transformed man. To express his feelings he uses the language of the 'Divine', unfamiliar to other not-surrendered persons.

Still, if one tries to express the feelings, it is felt as the meeting point of all paradoxes. There appears a coherence of reasoning, instinct, feelings, values and Grace, a feeling of holism and bootstrapping in simultaneity, a feeling of blessedness*.

* The feelings of blessedness is mixed with a feelings of security. When Niel Armstrong, landed on the moon with an integrasted unconditional active total surrender to an Unknown, he also speaks of a feelings of blessedness similar to the loving touch of his parents.

The Obstacles for Surrender

The obstacles are two : the ignorance and the self-consciousness. The ignorance goes slowly with education and exposure to proper environment. The self-consciousness, the last obstacle for surrender, on the other hand is quintessence of existence. During the process of surrender, there is refinement of self-consciousness. The ego of 'becoming', the ego of a self-consecrator need to be open to the Essence of the Multiversity. The secret of renunciation remains in renunciation of self-consciousness to the Essence of the Multiversity.

Result of Surrender

The result of surrender to a system is transformation of the being into a loving working unit of that system. When one accepts the principles, laws, ethics and rules of Mother Nature, selects his working premise in Her courtyard, one actually chooses the path for transformation. A total, conscious and unconditional surrender initiates a process of transformation along the Great Chain of Being.

Within my 'self'
He sows seed,
He takes care of
All I need.

Summary

1. The surrender is the process by which one's nature becomes Mother Nature.
2. 'No surrender' is the rule of thumb till the fulfillment of the endpoint remains a probability.
3. The process is to be total, conscious and unconditional.
4. The process of surrender, in other words, is the biologization of Mother Nature.
5. The surrender to supracosmic consciousness remains the 'key' for transformation of the present human race, along The Great Chain of Beings.

New Formation is New Formation. It is not just a synthesis. It is not merely a creative emergence. It is not just only an alloy. One could see the sign of newness in its very existence as well as in its Ultimate Utility.

PART - VII

Towards New Formation

"It is the mark of an educated mind to rest satisfied with the degree of precision which the nature of the subject admits, and not to seek exactness where only an approximation is possible."

- Aristotle.

Chapter 32

What are those Four Forces of Nature?

Summary of the Four Forces of Nature

Physicists have agreed that there are only four primary forces of nature, namely gravity, electromagnetic force, weak force, and strong force. A summary of these four forces has been given in the following tables.

Force	Messenger					Strength
	Name	Charge	Mass	Spin	Velocity	
1. Gravity	Graviton (one)	0	0	2units (Boson)	of light	One force field
2. Eletromagnetic force	Photon (one)	0	0	2units (Boson)	of light	One force field
3. Weak force	W+/ –, z (three)	85 95	+ /–1 0	1 unit 1 unit	–	Three force fields
4. Strong force	Gluon (eight)	0	0	– (Boson)	–	Eight force Fields

Force	Range	Specificity	Example
1. Gravity	universal	All particles are coupled to this force. Even the graviton gravitates.	We are on this planet by a network of graviton. Graviton is the messenger between moon and ocean.
2. Electro-magnetic force	Long-range, universal	Only charged particles are coupled to this force. Photon itself is independent of the force it is responsible for.	The chemical reactions.
3. Weak force	Very narrow, within 10^{-16} cm	Driving transmutation in the identity of particle. The messengers themselves are not free of forces. Asymmetry in physics.	Beta decay. Supernova explosion. 'Flavour' of quark.
4. Strong force	Very narrow, within 10^{-13} cm	Only heavier particles are compelled by this force. Binds not only pairs but also triplets (of quark).	Confinement of quark. Sunlight emission. Nuclear bomb explosion. 'Colour' of quark.

In addition to the facts mentioned in the above tables, the following are also to be specially noted.

1. The graviton also gravitates. So also the gluons glue. The same is true for w + – / z particles. Neither of the messenger of these three forces is independent of the 'charge', they are responsible for. Only exception amongst messengers is photon, the messenger of electromagnetic force. The photon in the Akhanda Paradigm is involved in both nature and character (see next chapter).
2. Messengers of electromagnetic force, weak force and strong force obey laws of quantum mechanics. Scientists are finding immense difficulties in formulating quantum gravity clearly.
3. Within their range, strong force and weak force get weaker, the particles are closer in. The gravity and the electromagnetic force obey inverse square law of force. This is a pointer towards their commonalty. Prof. Shiuji Inomata, the President of Psychotronic Institute, Japan, in his theory, draws attention to the fact that, 'gravitational attraction between masses, m1 and m2, is equal to the attraction between their shadow charges, q1 and q2'. The shadow charges, according to him, is quantification of panpsychic consciousness.

Attempts for Unification

Physicists believe that these four forces are different facets of one and only one. They also speculate that if one could reach the origin of the four, the mysteries of the universe will be solved. They imagine their *Whole* at the point of unification of the four. The attempt of

unification, however, did not start with an aim to find out a 'superforce'. The 'superforce' has been speculated only following Grand Unification have come up during last two decades. The attempt of unification goes back to Maxwell who united electric and magnetic fields into one electromagnetic force. After about a century, very recently, Prof. Salam and Prof. Weinburg have combined electromagnetic force with weak force to formulate electroweak force. Several theories have been put forward as GUTs (Grand Unification Theories) which account for grand trinity of strong force, weak force and electromagnetic force. Many theorists have also predicted the existence of a 'superforce' when gravity is also accounted for.

Inspite of all sincere attempts, four forces have not been enfeoffed to one.

Causes of Failure in attempted Unification

In spite of sincere attempts when intelligence fails, one has to search for some extraordinary causes. To me, causes of failure are as follows:-

1. The Approach :

The approach is from below; from facts, concepts, hypothesis to theory; not from above downwards, from truth to paradigm, paradigm to theory, to hypothesis, concept and finally constellation of facts (cf.: Fig. 1.7). The top-down approach is not expected out of a brain which believes in receiving and analyzing informations conventionally, only from sensory nerves.

2. The Instrument :

The instrument for this attempted unification is intellect of different parts of the brain. The intellect may be superb, most refined but its components are not unified. So, the informations, which are delivered, are either product of left brain or of right. Some are, however, transcendental. Others could be classified as 'voice from the void'. Mostly, activity in such brain remains analytical. The synthesis is rare. In short, information on nature delivered by such brain are result of a focal / local / fragmented outbursts in the brain. Rarely there is global integration. For formulation of an unified theory we need global integration:

i. Integration of both upstairs and downstairs of cerebral cortex.

ii. Integration of both hemispheres, left and right .

iii. Integration of within and without.

3. Not accounting for Cause :

Existing theories of physics do not attend to the question, 'why'? Why the four forces should have a common origin? Is their unification really needed to build up a unified theory of the universe? Is universe to be considered only energy dispersed in form of Force and Field? What is the Cause of this exceptionally tremendous amount of energy? Until one starts accounting for the Cause, the solution is conspicuous by its absence.

4. Nonpenetration of Triangular Guard :

As existing theories do not dare to penetrate the cause, their starting point remains 'quantum vacuum', the great void. So, at best the theories can lead us only up to the level of void and not beyond. This 'beyond' is guarded by three *formidable* constants, namely velocity of light, Planck's constant and constancy of entropy barrier. The whole reality of 'new physics' lies beneath this triangular guard. Most physicists do not want to go beyond them, nor even try to

find out their interrelationship. So, superluminal transfer of information is ignored. They can reach up to 10^{-43} sec following big bang. They are not able to break the entropy barrier. They are also not clear about the gravity.

5. Mystical view is Ignored :

One of the sensational prediction of grand unification theory is that even the most durable matter, proton (average life span is about million, trillion, trillion years) is perishable. Then logically it follows, our universe will end in a big crunch - a cataclysm - a negative end. The mystics, however, hold an optimistic view. According to many of them, the theories which deterministically point out a cataclysm could never be final. Death is not the end ! Following death, there is a new life.

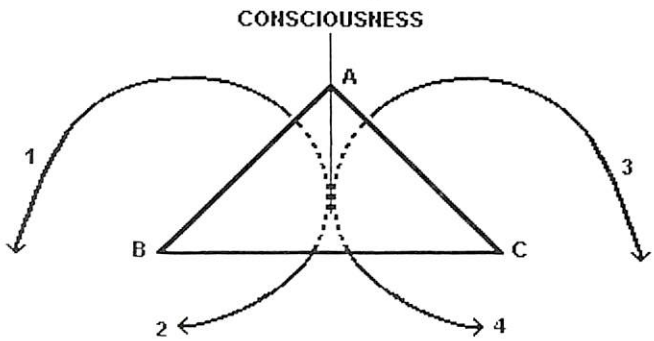
For the above reasons, four forces of nature need to be looked at from a completely different angle.

The Four Forces in the Akhanda Paradigm

From a totally new stand point, the Akhanda Paradigm takes note of those four Forces of nature. At the very outset, the paradigm is clear that four limbs do not constitute a being. Limbs are limbs only. Their unity is in a deeper plane, in the brain. The four Forces, in the Akhanda Paradigm, are four different responses, four different expressions of the 'feelings' of the Whole.

Four Expressive routes of the Brain :

In the brain the four expressive routes of limbic system are limbicohypothalamic, limbicocortico-associative, limbicocortico-pyramidal and limbicostrial, corresponding respectively to emotional, intellectual, mystical, and physically executive ways of expression. All feelings are expressed through these four routes. The limbic system is the essence of the biology.



1. Emotional
2. Intellectual
3. Mystical
4. Executive

A. Septal Nuclei
B. Amygdaloid Nuclei (Left)
c. Amygdaloid Nuclei (Right)

ABC - Neurological Pleasure Triangle
NPT and its Four Expressive Routes
FIG. 32.1

Its activity is governed by three groups of nuclei: midline septal nuclei and the left and right amygdalae. The three together constitute the neurological pleasure triangle (NPT). The four routes are meant for expression of pleasure or 'ananda' in the brain.

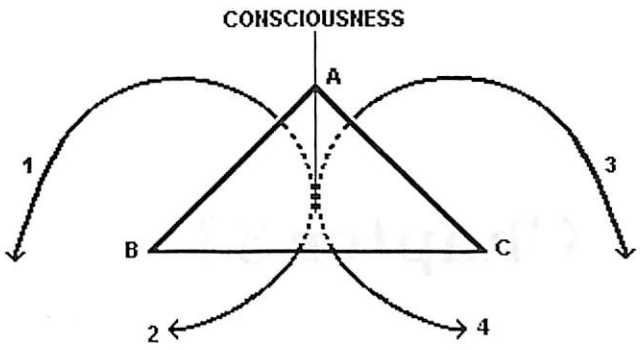
What is outside is also within :

The human body is a reflection symmetry of the outer cosmos. Neurological pleasure triangle is a reflection symmetry of cosmological pleasure triangle, formed by three formidable constants, namely Planck's constant, velocity of light and the constancy of entropy barrier.

In addition, this triangle is not static. Everything in it is dynamic: apices, arm, centre and the area. There is an interchangeability of the apices. The triangle enjoys dynamicity in eleven dimensions.

The cosmological pleasure triangle is in ten dimensional space. With the addition of 'time' it becomes eleven dimensional. The cosmological triangle is the pleasure triangle of Mother Nature. Mother Nature is the executive front of consciousness.

The cosmological pleasure of Mother Nature is expressed through these four Forces namely gravity, electromagnetic force, weak force and strong force.



1. Gravity
2. E. M. Force
3. Weak Force
4. Strong Force

A. Constant of Prigogine
B. Planck's Constant
C. Einstein's Constant

ABC - Cosmological Pleasure Triangle

CPT and its Four Expressive Routes

FIG. 32.2

In the Akhanda Paradigm, there is no need of unification of four Forces. Even if the unity exists, this is not a result of unity of four Forces. The unity exists in further, deeper plane. However, as a person can have different combinations of expression of his limbic feelings, so there may be varying combinations of expression of different forces of nature.

The New Hint

Whatever may be the relationship of four forces of nature, the key to the unified theory for this universe is not in unification of four Forces but in the interrelationship of three fundamental constants of sciences which constitute the cosmological pleasure triangle of which these four Forces are outward expressions only.

Chapter 33

Nature and Character
Would Biophysicists solve the Problem?

Introduction

When I ask you to look into a matter, I ask you not only to observe but also to see. You observe the outward character. You see the inner nature. The character is what is expressed. The nature is what is within.

To understand the Whole, one needs to know both nature and character and finally their intriguing relationship. Unfortunately, neither do we know the innate nature of ourselves or the universe, nor are we thorough with the characteristic expression of selves, individual or universal. So, by observing a characteristic expression, we fool ourselves that we have known the Whole of it. Or, by seeing at its root (for example, the genes of a cell) we ignore its expressional characteristics.

Unless within and without merge, the lock in the relationship of nature and character remains closed. In order to find out the relationship of nature and character it is essential to unlock the 'door', guarding within from without. Once unlocked, consciousness becomes the reality.

In this chapter, we will discuss nature and character in terminology of neurobiology and physics. Then we will highlight the frontiers, which could be of help to explore their intriguing relationship.

Nature and Character in Neurobiology

Depending on five vital phenomena in biology, namely life, death, ego, sex and love there are five types of nature, namely lively, deathly, egoistic, sexy and lovely. The five are integrated in one hypothetical biological integration centre (BIC) involving the cortical area of both paracentral lobules.

The centre of feelings in the brain is the limbic system, governed by three groups of nuclei, namely, midline septal nuclei, and left and right amygdalae.

Three groups of nuclei constitute the neurological pleasure triangle (NPT). The feelings are expressed through limbico-hypothalamic (emotional), limbicocortical associative (intellectual), limbicocortical decisive (mystical) and limbicostrial (execution) pathways. There are *four* from *one*. There are only four primary ways of expressing one's feelings.

Nature and Character in Physics

Four forces of nature, namely gravity, electromagnetic force, weak force and strong force are four characteristic ways of expression of cosmological pleasure. The four forces 'meet' at the centre of cosmological pleasure triangle (CPT) formed by three constants of present science namely Planck's constant, velocity of light and the entropy barrier (Fig. 33.1).

Cosmic nature is very intriguing. They are qualities of consciousness. Immortality, eternity, infinity and ananda are transcendental qualifications of consciousness. Corresponding non-transcendental qualifications are cause, time, space and pleasure. The gap between non-transcendental and transcendental qualifications are bridged by silence, stillness, emptiness and nothingness respectively (Fig. 1.1). So far, we have chosen a dozen of words to qualify consciousness. They constitute the philosophy of cosmic nature.

In the terminology of physics, phonon has been chosen as an objective 'mould' of stillness, photon of emptiness, conformon of silence and neutrino of nothingness. When these four massless wave package of energy strip of their properties (ego), one gets phon-E-C (phonon equivalent of consciousness), phot-E-C (photon equivalent of consciousness), conf-E-C (conformon equivalent of consciousness) and neut-E-C (Neutrino equivalent of consciousness). Four integrate with consciousness, at the 'heart' of cosmos, the cosmic integration centre (CIC).

The Problems

The problems are there in physics as well as biology. We do not know the relationship of nature and character in either of these branches of science. The basic points are :

1. The asymmetry in relationship of nature and character in terminology of both physics and biology.
2. The asymmetry of physics is nullified by asymmetry of biology during supreme consummation. The mechanism needs to be explored.

If breaking of symmetry and sustenance of an asymmetry is responsible for 'life' to run, what all are responsible for it? During supreme consummation, how the symmetry breaking force is overtaken by symmetrifying mechanics? And how again, is the asymmetry built up for life to continue?

Frontiers for Research

1. Photon-Phonon relationship :

Photon, in our paradigm, occupies a place in both 'nature' and 'character'. Photon has been related to 'space' and phonon to 'time'. Photon-phonon relationship is simply illustrated by the property of monochromator. The essence of a prism/filter is phonon, which chooses a photon to emerge with selective wavelength. So, the spatial relationship of photon with time (cycle/sec, space/time) is determined by phonons in the crystal. How this photon-phonon relationship is responsible for space time relation is an intriguing frontier for research.

2. Photon-Graviton Relationship :

Gravity is spacetime (Einstein). Other three forces extend through space and time. If photon-phonon relationship exists as stated in point number one, how can then one accommodate graviton in the system? The graviton is massless. It moves with a velocity of light. It differs from photon by having two units of spin.

3. Gluon and Phon-E-C :

Conceptually as phonon is to a crystal, so gluon is to quarks. So, what is the relationship of gluon and phon-E-C?

4. Neutrino and Graviton :

'If neutrino is proved to have mass, the prediction of collapse of our universe under gravity is almost certain.' Could any one guess how neutrino and graviton are related to each other !

5. What is the relation between Thermodynamic 'openness' and activities of Neutrino? :

Prof Prigogine has asked, "Can gravitation be included in some form of the second law, or is there a kind of dialectical balance between thermodynamics and gravitation?" (*Order out of Chaos*, page 298, 1988).

6. Neutrino in Biology :

Neutrinos (and weak force) keep a biological system thermodynamically open. A neutrino shower on the head, i.e. on the upstairs or upper three layers of cerebral cortex has been implicated in the 'Grace' phenomenon which is proposed to 'transform' a personality. In physical science, neutrino and weak force have been implicated in transmutation of element (e.g. beta decay). In biology, are they responsible for transmutation of total personality? What is the relationship of transformation and transmutation? Is it true that transmutation is focal and transformation a global phenomenon? Or, is transmutation a phenomenon which does not penetrate the 'energy barrier'? And, transformation is a phenomenon which penetrates through this energy barrier !

In chapter twenty two, we have said that transmutation involves the great void and there is a coming back to different mechanics. The transformation needs penetration through great void, There is involvement of 'spaceless vast' and coming back to same old mechanic.

7. Electro-Weak unification in the cerebral cortex :

The upstair of cerebral cortex, the upper three layers, are thermodynamically open. There is an electroweak interaction. Weak force is the only force of nature which breaks symmetry. Does weak force join hand with neutrino to keep a system thermodynamically open? How could this property be linked with ultimate asymmetry of left and right brain?

8. Research on Conformon :

Conformon is a wave package of energy, carrying information. It has successfully gone through evolutionary selection. It is only energy which can do a goal oriented work. In a cell, it is most important for functioning of DNA and enzymes. Prof. Prigogine has gone far to say that without conformon there is no life.

In the Akhanda Paradigm, the conformon has been chosen as an objective mould against silence and conf-E-C of that of immortality. In the physical science, we need a careful look into:

a. Conformon and primordial information during big bang.
b. Conformon and symmetry
c. Conformon and supergravity
d. Conformal quantum field theory models.
e. Finally, conformal invariance.

9. The Energy Barrier :

10^{19} proton mass is the pointed energy of superforce. What is its relation with entropy barrier of Prof. Prigogine? How are they related with psychological barrier guarded by 'shame and guilt', beyond which is the domain of consciousness.

10. Will the big bang-physicists learn from embryology and the embryologists from the big bang?

In biology, every fertilization of an ovum by a sperm is a big bang. Fertilization occurs in the infundibulum of the fallopian tube, separated from the great void by a narrow passage, the isthmus, (e.g. outer tunnel in Fig. 1.3). The seed passes through an inflationary epoch i.e. formation of chorion. The uterine cavity is the great void where the fertilized ovum is implanted. Homing of cells in different regions of the implanted fetus and the process of organogenesis simulate galaxy formation.

Physicists cannot penetrate beyond 10^{-45} sec and beyond Planck's energy. Embryologists watch the event from the beginning. However, not all fertilizations lead to a healthy baby. Not all big bangs can result in a healthy universe !

Conclusion

What is within is also present outside. Till such reality is achieved, nature and character will differ. Till within and without become identical by Superme Consummation, no unified model of this universe is expected to come. This article is only an introduction to such a step.

Chapter 34

Behavioral Mathematics
A New Start

Scientists have used higher mathematics in behavioral science of physical force, energy and field. The quantum dynamics have a very, very organized mathematical expression. The most recent ones like supersymmetry, supergravity, superstring are founded on the mathematical formulations of theoretical physicists. Mathematics has always been a language of science. An enormous amount of information can be conveyed through a simple equation of mathematics. Like music and art, it also has its exquisite beauty and symmetry. The elegance of this mathematical language is revealed to those who knows the meaning of its code. The question is, can this mathematics be used for the expression of behavior of human beings?

Nobel Physicist, Erwin Schrodinger, pointed out, "Other laws of physics hitherto unknown, which, however, once they have been revealed, will form part of the science of self or mind, as that of the gene".

Difficulties in Formulation of Behavioral Mathematics for Human Beings

1. The Subjectivity in the Root :

Mathematics is a mode of objective expression. On the other hand, there is a covert or an overt subjectivity in the root of all sciences. This is enormous in case of behavioral science particularly that dealing with human behavior. The gulf between small 'i' (self) and the projected 'I'(projected self) is the determinant of human behavior in initial or preliminary phase. The interaction between universal 'I' (universal self) and small 'i' (self) is its determinant in all phases. This subjectivity in the root, the relationship of small 'i', projected 'i' and universal 'i' needs to be objectified before any one attempts to formulate behavioral mathematics.

2. Information Processing in the Brain is Fragmented :

The information processing in most of our brains is not holistic. It is fragmented. If the profound philosophical statements which dictate the laws of human behavior are not the products of integrated brain function, namely integration of left brain and right brain, integration of upstairs and downstairs of cortex and cosmocortical integration, how can one rely on such dogmas or constants to build up a mathematical expression? The formula, 'love is life' is a completely upstair phenomenon. 'As much effort is there, so much is the success' is primarily an utterance from left brain. 'God helps those who *does not* help themselves' is a statement of right hemisphere. 'As much sacrificed, so much gained' is a delivery of supracortical mentality. Some of these statements are more accurate, more near to true value than others. Others appear fragmented. We have seen, when the categorical hemisphere represents the eternity, a categorical statement from the representational hemisphere is most near to truth at that point of time.

3. Ill-defined Constants for Human behavior :

There are constants in all mathematical expressions. In the existing science, mathematics is limited by three formidable constants, namely constancy of entropy barrier, velocity of light and Planck's constant. The mathematical expression of behavior of a photon, needs to be supported by one or the other of these constants. No one can dissolve these constants and expect a mathematical expression depicting the behavior of a quantum of energy. These constants, however, have helped the science to grow beneath them. On the other hand, these constants are nothing but subjective limitation in objective science. For example, Einstein's brain could not comprehend anything that had a velocity greater than that of light. Max Planck's brain can maintain objectivity but only till Planck's time. According to him, the observer, the process of observation and the observed, maintain a certain minimum distance of time.

In biological science, the constants for behavioral expression of human being are very ill-defined. The biological system has been left ever-open. However, when one wishes to understand the order of the stream, one needs some constants. It has been said, 'love is endless', 'life is eternal', 'death is not a full stop for life', 'sex is transformed into love', 'the ego is the quintessence of existence'. But we have never imagined or thought that these five biological phenomena could be integrated in one point. We have not even tried to define these five poles of human nature.

4. Distinction and Interrelation of Nature and Character have not been done :

We have tried to identify thing with its outward feature, the characteristic expression. We have ignored its innate nature. Character is what is expressed. Nature is what is within. The central transmutation of a stimulus into a response definitely passes through the internal network of nature. In the human being, nature and character are linked in the limbic pleasure triangle.

5. Ignorance about Where to start from :

Behavioral science is bournless and so vast that most of us do not know where to start from. To explore a bournless sea, one cannot have a tunnel vision, or a fragmented outlook. If there is no path, a path is to be made by walking. So, let us settle first what should be *the starting point.*

The Starting Point is Love

We will start from an unfailing abstract, Love. Three *impossibilities* dictated by barriers of Einstein (absolute simultaneity of events), Max Planck (absolute continuity of events) and Prigogine (absolute identity of events) are taken care of, transcended and transformed by Love. In Love, inherent is hundred percent certainty, and only with such starting point can one explore the highest order in nature.

Physicists in search of Love

Like all human beings, physicists have also been looking for love in their science. The output of their effort is remarkable. Those who have searched for Love in the interactions between a particle and antiparticle or in the handshake of Dr. Mukhopadhyay and anti-Dr. Mukhopadhyay, have been bewildered and dazed by gamma rays. Those who have tried to look for love under the clothes, have come out with naked beauty of quark and antiquark. They have seen and described the nakedness and not Love. There are a few who have drawn attention of the whole scientific community towards interconnected wholeness, have sensed love in implicate order of Nature. Those who have looked for a *Cause* which brings order following chaos, have seen 'life' as love. If Max Planck would have been alive today, he would have agreed with the view that love is not emitted or reabsorbed as quantum. It is in reality a continuum. The equations of quantum mechanics is not applicable for love to bring it down in mathematical expression. Albert Einstein, if he would have been alive too, certainly would have accepted love as superluminal event. But for him the task of expressing it, keeping the velocity of light as constant, could have opened up a new science. Sir Isaac Newton, also would have found Love beyond the gravitational laws. How to link that unfailing abstract love with gravitational force and laws is a long pending task.

The Love in the Akhanda Paradigm

In the *Frontier of Research for Human Biologists, Next Hundred Years* and in *The Dynamic Web of Supracortical Consciousness*, Love is said to be cortical manifestation of supracortical consciousness. Love is a manifestation of the Essence of the Multiversity through the human brain. Whatever love and sacrifice one observes day to day is because of successful expedition of supracortical consciousness through numerous obscurities of the infrastructure of the nervous system. Love also has a genetic basis. One cannot love a flower or music unless one has genes for it. Love turns on the genes. The biochemistry of love is intimately linked with biochemical machinery of gene expression. It is the love which transforms and then creates.

Beside the neural and genetic basis of love, there is gonadal aspect of love. In prolonged love affair of a male and female there is genetic reassortment at the level of gametes. If sufficient time is allowed to newly wed couple for love to mature, the gonadal aspect of love is vividly exemplified in their offspring. The 'quality' genes which were involved in this transhuman interaction during prolonged love affair, are more likely to be passed in the offspring both from maternal and maternal ancestries.

The journey of love from cosmos to neuron, from neuron to target organs, to gametes, has been responsible for evolution of human being out of an animal being. Love has also been doing the same for transformation of a cortical being into a supracortical being.

Love is concealed, as mentioned, from an ordinary scientist's vision by three constants. Planck's constant propounds interruption and forbids continuum. The maximum velocity of photon guards the superluminal events. The entropy barrier forbids identity of events. Beyond the entropy barrier is the domain of consciousness. These three constants guard consciousness from ordinary peoples' vision. These three constants themselves, however, are in direct touch with consciousness.

Three Universal Barriers

	Velocity of Light	**Entropy Barrier**	**Planck's Constant**
1. Sustainer	Albert Einstein	Illya Prigogine	Max Planck
2. Outcome of the barrier	The Theory of Relativity	Irreversible processes.	Quantum Mechanics.
3. Benefit of the barrier	Gives meaning to Causality	Gives meaning to communication	It sets up a natural scale according to the object mass.
4. Rooted Impossibility.	No observer can transmit signal at a velocity higher than that of light.	No one can produce situation that would evolve into one's past.	No observer can ever get the real picture of the object.
5. Exclusion	Absolute simultaneity	Absolute identity	Absolute continuity

The universal barriers destroy the homogeneity of nature and excludes simultaneity, identity and continuity of events.

In the Akhanda Paradigm, these three formidable barriers in sciences constitute a triangle called 'cosmological pleasure triangle' (CPT). The 'space' limited by three points is eleven dimensional (Kaluza and Klein).

And, LOVE is that n-dimensional abstract which kisses, fondles, embraces and perforates the eleven dimensional cosmological pleasure triangle guarded by barriers of Prigogine, Einstein and Max Planck.

Framing of Behavioral Mathematics

We have defined love in frame of three formidable constants of science, which form an eleven dimensional cosmological pleasure triangle. We have described five categories of human nature and five categories of cosmic nature. From them, we have defined two more reference points namely biological integration centre and cosmic integration centre. Four expressive routes for human behavior and four for Nature's force have also been pointed out.

All these new statements, it is supposed, will be very helpful in the formulation and computation of behavioral mathematics involving an equation with 'God'.

Chapter 35

Mother Nature
An Introduction

Very little is known about Her. So, much has been written on her. To very few persons, She has revealed Herself. Others have only guessed about Her. Very few have the requisite physical body to have a play with Her. So, most of us are deprived of experiencing Her ecstasy. In *The Dynamic Web of Supracortical Consciousness* and in the *Conquering the Brain*, we have been glimpsing at various facets of Her. These glimpses are nothing but an introduction for an agreement, an engagement to have a play with Her.

The Achievable Highest

When one's nature becomes Mother Nature, one is consciousness. You, Me and 'self' are all consciousness. So, the achievable highest in human life is to transform one's own nature into Mother Nature.

The Visible Form of Mother Nature

She is the love between atman, the absolutely purified self-consciousness and paramatman, the supracortical consciousness. During the great transit of Sadguru (the supracortical autonomy) through the phase of transferring consciousness to the next selected one, His nature is a visible objective form of Mother Nature in human incarnation.

To Whom does She reveal Herself?

Mother Nature is hidden between 'I' and 'superforce' of physicists. She is guarded from the ordinary scientist by three formidable constants, namely the constant of entropy barrier, the velocity of light and the Planck's constant. She has already hidden Herself from the underground physicists engaged in collison of particles, searching for love in the attraction of matter and antimatter. She has also refrained from those digging the reptilian remnant in their nervous system in name of consciousness research.

Anybody trying to 'explore' Her, without prior sanction, faces a deadly 'revenge'. She withdraws Her flux. She leaves him in vacuum. (cf: 'Nature says 'No' to most of the questions it is asked and occasionally 'perhaps' - Einstein). To get the sanction, an honest execution for transformation is a prerequisite. When one prepares to transform one's own nature into Mother Nature, She spontaneously unfolds Herself, though slowly.

She has given a distinct hint to modern physicist through Rosen-Podolsky-Einstein's experiment, Bell's Theorem, the Human Physics of Professor Prigogine.

Mother Nature is the palpable fullness of the void. Mother Nature and void are mutually exclusive. The brain which has been trained to experience void has to evolve further to have the experience of Mother Nature. And, the brain which has started experiencing Mother Nature rejects any existence of void outright.

She reveals herself to those who are biologically integrated and who seek consciousness only for consciousness.

Executive Mother Nature

1. Thermodynamic Openness and New Creation :

Mother Nature is responsible for thermodynamic openness of a living organism.

She is essential for a new creation.

The forms of Mother Nature which are visible during this execution are *conformon, neutrino, photon and phonon.*

At first sight, it seems that neutrinos are solely responsible for this openness. But neutrinos cannot do it alone unless the password from conformon is available. The ground level execution is carried out through photon and phonon. All four have one dimension in matter-energy and another dimension in consciousness (Conf-E-C, Neut-E-C, Phot-E-C, Phon-E-C). Application of **weak force** is inevitable because it is the only force which breaks symmetry. Broken symmetry is a prerequisite for a new creation.

2. Mother Nature, The Life Force :

Mother Nature is the 'Life Force' of a living organism. The Akhanda Paradigm states that in a cortical being, 'Life' comes from above through the cerebral cortex. The unification of phase specific 'life' within the organism and the eternal 'life' is a result of Supreme Consummation.

It is Mother Nature who unifies consciousness within and consciousness outside the brain.

3. Mother Nature, The Transformer :

Mother Nature offers the healing touch to the *basic vulnerability* (in the language of Prof. John Welwood), which are exposed during existential lysis in the great void. She offers the *'hi-touch'* which the *'hi-tech'* has so far failed to do.

Mother Nature, the executive front of consciousness scrutinizes the genes during process of surrender. She sees whether those are conducive* for expression of the Grace or not.

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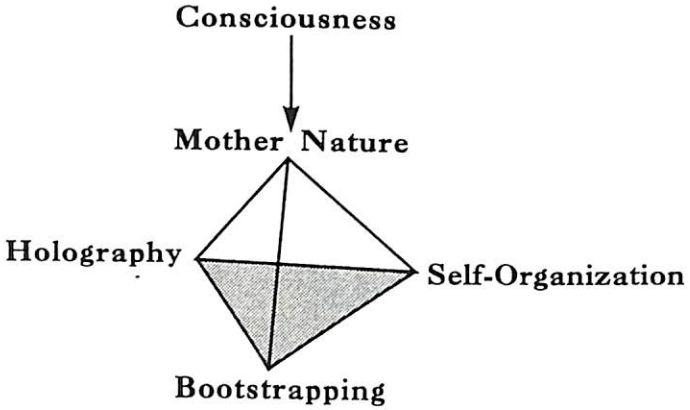
*cf: A reductionist's view, 'Human behavior---is the circuitous technique by which human genetic material has been and will be kept intact--. Morality has no other demonstrable ultimate function' - E. O. Wilson.
Also read, 'Let us try to teach generosity and altruism, because we are born selfish' -- Richard Dakins.

During the process of transformation, Mother Nature is the thundering 'No' to the chaotic element.

She conveys the sanction from above. She scrutinizes various aspirations and propensities. She selects the desired signal during competetion of causes.



Mother Nature, as revealed to the Empiricist
FIG. 35.1

4. Mother Nature, as seen by Empiricist :

The Empiricist observes Mother Nature in the proces of self-organization, during bootstrapping and in holographic engulfment (holonization) (Fig. 35.1). Mother Nature is the director during self-organization in a thermodynamically open system. She censors the whole process. In the absence of this censoring, self-organization gets misdirected. She is the 'gluing force' of all holograms. She is the matrix in bootstrapping. She unifies holographic universe(s) and holographic brains. A hologram is a pattern of phase information and Mother Nature mediates by changing the phase relationship.

5. Mother Nature, The Warranty :

Objective proof of Mother nature's action is the insurance of certainty amongst uncertainty, the offer of an eternal warranty and security. Though, Her action begins far beyond the limit of uncertainty principle of Heisenberg, it is completed through Newtonian mechanics.

Sandwiched between the plane of determinism of Mother Nature about which Bell's Theorem offers a hint, and the plane of Newtonian determinism which is silent about both Consciousness and Life Force, lies the vast plane of indeterminacy, where Werner Heisenberg and his followers found an uncertain world. The originator of the Theory of Relativity, Albert Einstein, reacted sharply and consistently to this uncertainty, 'God does not play dice with the universe'. Niels Bohr responded to Einstein's reaction, 'Nor is it our business to prescribe to God how He should run the world'. Disturbed by the deepest uncertainty (in context of black hole) Stephen Hawking remarked, 'God not only plays dice but also sometimes throws them where they cannot be seen'. **

** cf: Prof. Prigogine's article, A (very) Brief History of Certainty, Network, 56, pp 6-7, 1995.

The hidden assumption in the Paradigm of Indeterminacy is dualism. Indeterminacy ends in Unity, in Monism.

Some Examples of Dualism

1. Right Brain	Left Brain
2. Connectedness	Separateness
3. Wave	Particle
4. Causal	Informational
5. Feminine	Masculine

There are three kinds of uncertainty in each of the three domains of Philosophy, Physics and Neuroscience.

	Indeterminacy in Philosophy	Indeterminacy in Physics	**Indeterminacy in Information Processing and Responsivity of the Brain**
1.	Intralevel indeterminacy of space and time.	Heisenberg's Uncertainty Principle	Left brain right brain dualism.
2.	Indeterminacy in interlevel interaction. Indeterminacy in synchronization of any two events with defferrent hierarchical status. "The 'higher' comes through the lower, rests on the lower but does not come from the lower. All of lower is in the higher but not vice versa. It is this not vice versa which makes hierarchy" (Wilber).	Quantum indeterminacy. Uncertainty about how pattern within pattern, that is embedded in larger pattern, is synchronized. David Bohm's uncertainty in the implicate order, 'in which the more subtle i.e. more finely woven enfolds those that are less subtle i.e. more coarsely woven'.	Indeterminacy in interaction of different strata of neurons. Indeterminacy in how layer six of cerebral cortex is engrammed in layer five, layer five in layer four and so on.
3.	Dualism of small 'i' and universal 'I'.	Stephen Hawking faces it at 'the edge of the universe'. 'God not only plays dice but also sometimes throws them where they cannot be seen'. Roger Penrose's uncertainty in the Emperor's new Mind.	The cosmocortical uncertainty. Dualism of absolutely purified self-consciousness and supracortical consciousness.

Heisenberg himself gets inspiration from the act of Columbus. "For Christopher Columbus, it must have been the most difficult decision to leave all known land and to sail so far west that the storage on board would not allow him to return. In a similar way, completely new land in science cannot be discovered unless one is prepared to leave at a certain point the foundation on which traditional science is based and try to jump into emptiness". Mother Nature is the Goddess of this emptiness.

When the Mother Nature looks with Her deterministic vision, She faces an uncertain world. Her Love-cry continues to mount and is expressed as the 'uncertainty of the Divine' for Her children. When the human brain, transcending the Newtonian determinism begins its march with an aspiration to receive the Deterministic Grace of Mother, it faces the world of Heisenberg, the world of Quantum indeterminacy, the uncertainty at the edge of the universe. Those are almost similar kinds of uncertainty of millions of spermatozoa in the vaginal fornices and uterine cavity, before one and only one of them becomes successful to fertilize the ovum. It is the uncertainty of hundreds or thousands of short-lived particles or waves or events which annihilate in the void. It is the uncertainty of thousands of millions of members of an animal species when they try to cross the threshold of a new formation. Here only to those, who do possess faith, (Swami Vivekananda defines faith, as a 'grasp on the ultimate'), who continue their struggle 'from the relative to the Absolute' (in the language of Max Planck) and stop not till 'Free Will' could run 'on the wheel', the Mother Nature's warranty is realized.

'Free Will' is the prerogative of Mother Nature. How the Free Will could be brought down to the level of Newtonian Mechanics has been suggested in fig. 35.2.

6. Mother Nature helping human soul to pierce through Cosmological Pleasure Triangle :

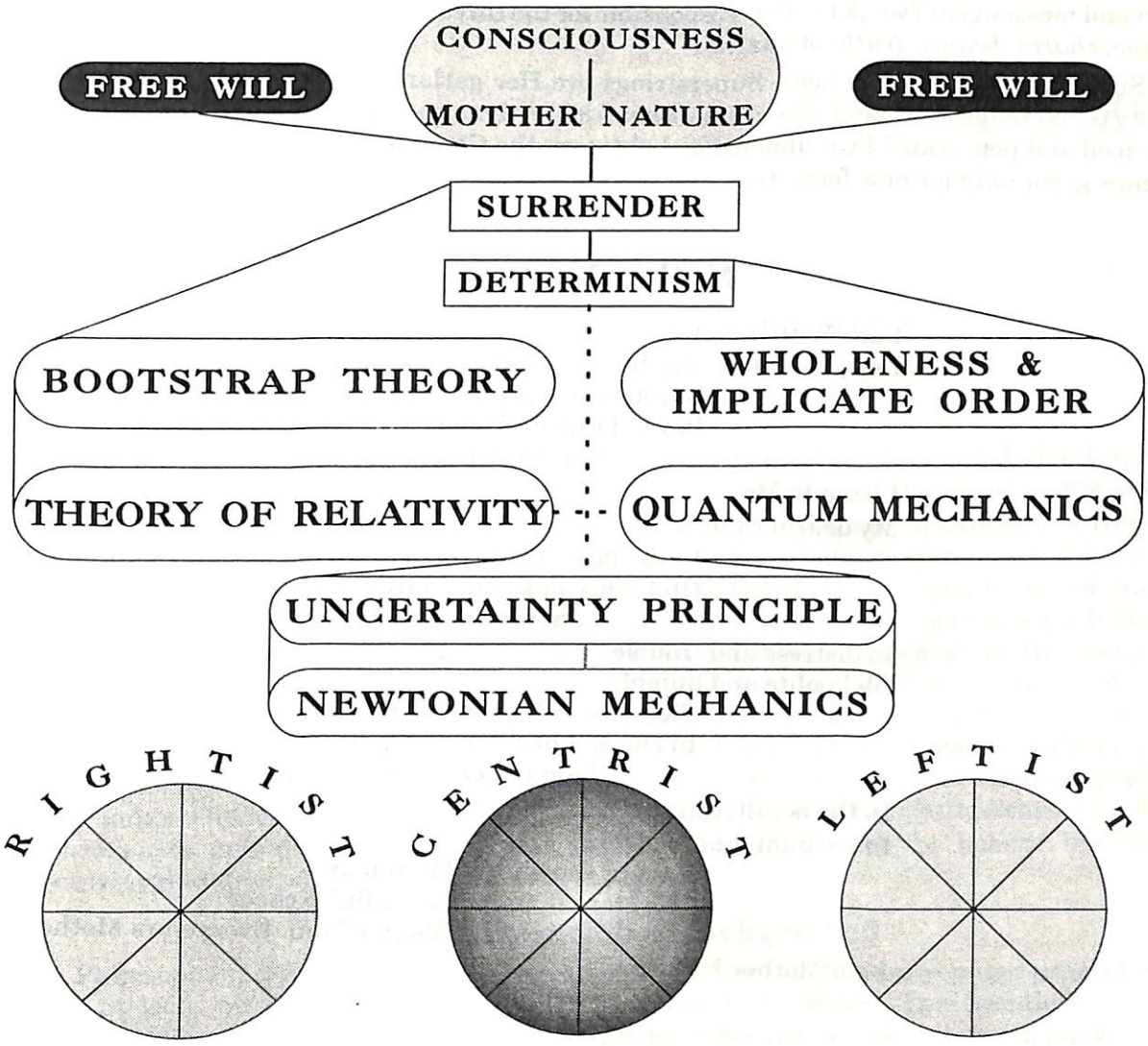
Mother Nature is the Cause, the executive front of Consciousness. Her one and only aim in acceptance of eternal toil is upliftment of 'selves' attached to lower nature, to the highest hierarchical level and eventually to reveal oneness of all selves with consciousness.

To do so, She has to play with three constants; the entropy barrier, the constant velocity of light and Planck's constant. Their human equivalents are instinctual constant, constant biological integration centre and the Sadguru (supracortical autonomy) respectively. In absence of Her approval, three constants are triangle apart, — a triangle with eleven dimensions. Without Her silent consent it is really impossible to perforate it and without perforation there is no transformation. This is why and this is where Mother Nature comes forward to ensure that lower selves could perforate this simplest triangle.

And, in doing so, She first tames gravity and takes care of entropy barrier. She kisses the constant velocity of light and generates superluminal events. Finally, she takes care of Planck's time. A dynamism in triangular apices begins. There is interchange of position of the apices. Planck's time is eventually dissolved. There is no triangle then. Consciousness melts as Love.

Expressive Routes of Mother Nature

Four expressive routes of cosmological pleasure of Mother Nature are gravity, electromagnetic force, weak force and strong force. She expresses Herself through graviton, photon, W/Z particles, and gluon.



Free Will on the Wheel

Fig. 35.2

She beams through the sun rays (strong force). Moon-ocean interaction (Graviton) is Her smile. The phenomenon of transmutation of identity of element is Her laugh. So is the supernova explosion. The nuclear bomb explosion (strong force) is an outburst of Her anger. She (through gluon and messenger of weak force) is responsible for the three colours and six flavors (*up, down, strange, charm, beauty, truth*) of quarks.

Supersymmetric is Her body. Superstrings are Her garland, a beauty exquisite ! Supergravity is Her majestic 'robe'. Eleven dimensional is Her dynamic pleasure point, fondled, kissed, embraced and penetrated by n-dimensional abstract, the Consciousness. In Her love, the seeds or genes germinate for new formation.

Mother Nature

I am Mother Nature
I stay very far, very far, very far.
Beyond this earth, beyond this world,
Beyond this universe.
I am very far.

Listen to Me,
My dearmost dear.
In the heart of one's heart,
Oh ! conscious and smart,
I am very near, very near, very near.

In distress and trouble,
Oh ! polite and humble
Please hear Me, hear Me, hear.
In chaos, I bring (new space, new time) New order.
I am the One. No second, no parallel, no peer.

In the occult, concealed.
In vacuum, I am revealed.
I am in you and in Me you are.
The eternal, immortal, infinite cheer.
Everyone's Mother I am. Everyone's Mother.

I am Mother Nature.

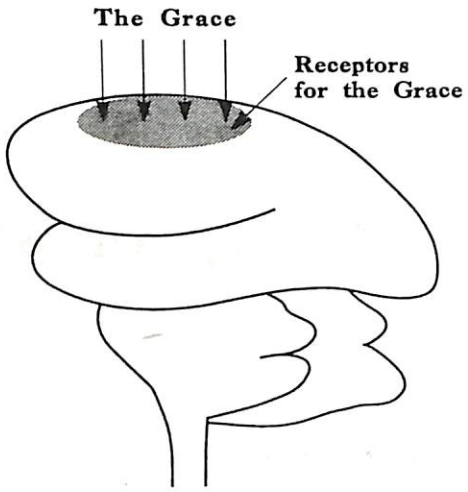
Chapter 36

The Grace Phenomenon

In the frontier of Subtle Energy and Energy Medicine research, the most difficult one is to explore the softest part of Mother Nature, the Grace. The Grace is perceived as the subtlest energy which is informational as well as causal. The consciousness equivalents of Neutrino, Conformon, Photon, Phonon, meet consciousness at the cosmic integration centre and are considered as the physical (empirical) substrate for the Grace. The receptor organ for effective utilization of the Grace is the human brain. The context at which this information is biologized is 'value' and the most valuable value in this context is Biological Integration, the integration of basic phenomena of this world, Love, Sex, Ego, Life and Death. The interaction of cosmic integration centre and biological integration centre culminates in Supreme Consummation. It initiates a series of processes in the subsystems of brain, which in short, could be called 'transformation'. Concurrent to this process of transformation the consciousness gradually gains independence from the brain. The Grace phenomenon also establishes identity of consciousness outside and consciousness inside the brain so that the holistic information processing and 'free will' become objective reality.

The Philosophical Background

Philosophers, whether from the East or the West, from old folks or younger generation, do agree at least in one point, - that the Grace comes from 'above'. The twentieth century's scientist-philosopher, may it be Wilder Penfield in neuroscience, or Schrodinger in physics, have also thought that 'something' from outside the brain has been influencing this coveted organ. The Seers, a countable few from history, whether it is Jesus Christ or Prophet Mohammed or twentieth century's Seers like Sri Ramkrishna, Sri Aurobindo or Akhandamandaleshwar Sri Sri Swami Swarupananda Paramahansa Deva, who have been 'absorbed' in the Whole, have blessed with their hands on the top of the head of a seeker. All enlightened realized persons have unequivocally expressed that the Grace is omnipresent, pouring incessantly on everyone's head, who have 'receptors' for it, have it.



Receptor for the Grace is on the Brain

FIG. 36.1

What is relevant to us is the fact that The Grace, though omnipresent, comes from 'above' i.e. it enters the body through the top of the head, i.e. the top of the brain, the cerebral cortex. It offers us a direction, — that the search for 'receptor' for the Grace could begin in the cerebral cortex (Fig. 36.1).

Analysis of the Grace Phenomenon

What is this Grace? Is it an energy field? An information? Or, something which is causal? The answer is in the mode of perception !

If it is an energy field, it is certainly an unconventional, pollution free energy, extracted from past-vacuum domain.

Is Grace an information? No. It conveys an information. It is known that the brain is much more sensitive to an information than a conventional energy field. An information about sudden demise of a loved one can cause collapse of an executive in the field. The delay in arrival of information may be the cause of serious inability of the brain to attend or concentrate on any problem. The Grace could be an information which is 'living', the softest and the most sensitive and is capable of doing a goal oriented work. The Grace is that living information which unequivocally conveys the message to the brain that consciousness within and consciousness outside are identical.

The Grace is the Supreme Causal. It initiates a process of transformation of the subsystems in the brain. In the process, it makes 'consciousness' independent of the brain. It establishes identity of consciousness within and without.

Summary of properties of the Grace

1. **It is an energy field** - the subtlest energy derived from past-vacuum phase.
2. **It is informational** - a living information that unequivocally conveys, 'consciousness within and consciousness outside are identical'.
3. **It is causal** -
   (i) It initiates the process of transformation of the subsystems in the brain.
   (ii) It makes 'consciousness' independent of the brain.
   (iii) It establishes identity of consciousness within and consciousness outside.

The Grace, the subtlest energy, the Supreme causal, when introduced as an information in certain 'elevated' state of the brain, is capable of altering the permanent content of consciousness within. It is imprinted during an episode, in which the instinct (the reticular core), the reasoning (the cerebral cortex) and the feelings (the limbic nuclei) merge into a point of no return (irreversibility) with 'infinite' entropy. The term 'permanance' connotes biologization, a realiza-

tion by biological hardware of the brain. This information is also blissful. Its reverberance and remembrance generate Ananda, which definitely involves the limbic nuclei. Ananda concurs with transformation. There, the Grace is more causal than informational*. The play of subtle energy in limbic pleasure triangle solves this paradoxical nature of the Grace. The phenomenon reminds the origin, one of the features by which a process is characterised as transformation. In the process, the Grace slowly makes 'consciousness' independent of the brain.

The Physical Substrate for the Grace

What could be the physical substrate for this Grace?

1. The Grace is an information which conveys the conformity with the Whole, the message of the Whole, the mechanics of the Whole. The physical substrate for executing this implicate order is conformon. Conformon is *gnergy*, (energy carrying information or *gnergon*: 'gn' means information, 'erg' means energy and 'ons' means discrete physical particles or entities) which can do a goal oriented work. When the conformon carries a holistic information, it becomes a substrate for the Grace. Conformon retains the 'password' for the Grace.
2. The Grace is a message which 'expands' human brain's consciousness. Taken to the extreme point, the expansion happens to such an extent that consciousness within and consciousness outside become identical. The Grace 'breaks' the 'infinite' entropy barrier. It is responsible for thermodynamic openness. The physical substrate for such a happening is attributed to properties of Neutrino. Neutrino is all pervading, which can even pass through atoms with impunity and in the process is responsible for perfection of the system. It plays a role to keep even the polar opposites together.
3. The electromagnetic substrate of this crucial information at the empirical level is Photon. When the brain is elevated to the State of Grace, superconductivity in the biological system is a common occurrence. Flow of electron in a superconductor circuits is switched on by photon. Concurrent to the inevitable devastation of the system during expansion of consciousness, there goes on a soothing regeneration in the way the conformon carries the message. And it is the Photon which exudes confidence there (cf: Biophoton, Extremely low Frequency Electromagnetic Field and healing).
4. Phonon is an essential structure of an information which has to permeate through or act on a macromolecular system. Photon/Phonon combination is a very primitive system, ontogenetically and phylogenetically very old system of signal conduction, transduction and control. And, the most sensitive cells of the cerebral cortex do retain this primitive system. In the intracellular chemical waves (also called intracellular dissipative structure), the phonon plays a crucial role. Phonon and electron have also been implicated in some kinds of superconductivity. Phonon bridges the Life-as-Physics paradigm with the Life-as-Chemistry paradigm.

*The 'causal' is an interpretation made by the right brain, 'informational' is an interpretation made by the left brain.

Summary of the Physical Substrate for the Grace

1. **Conformon :**
   a. as information, it retains the 'password' for the Whole.
   b. as energy, it maintains the implicate order of the system.
2. **Neutrino :**
   a. is responsible for expansion of consciousness of the system. (A blade of grass can cause crack in the adjacent concrete!)
   b. is all pervading and in the process looks after perfection of the system.
   c. keeps the system thermodynamically open.
   d. is responsible for keeping even the polar opposites together.
   e. with consent of conformon, covert or overt, has the ability to change the 'context' and the 'meaning' of an information.
3. **Photon :**
   a. is electromagnetic substrate for information.
   b. switches on flow of electron during superconductivity.
   c. in context of the Grace, photon is soothing and initiates healing and regeneration following the devastation executed by the neutrino.
4. **Phonon :**
   a. Phonon and electron have been implicated in some kinds of superconductivity.
   b. Photon/Phonon combination is phylogenetically and ontologically old system of signal conduction and signal transduction.
   c. Phonon has a role in intracellular chemical waves.
   d. Phonon bridges the Life-as-Physics paradigm and Life-as-Chemistry paradigm.

What makes the Information a Life Force?

Not all information are alive. Not all information have the self-organizing potential. Not all information have the ability to do a goal oriented work of holistic transformation and to free consciousness from the 'bondage' of the brain. Not all information require all four wave packages of energy for their structuring. There could be a message just through photon alone. When the macromolecular system exists in the pathway or in the target, the phonon is required in the matrix. For a holistic message with an ability to do goal oriented work the conformon is necessarily be incorporated in the structure. Neutrino is invoked when a system needs to be transformed in a holistic direction. When all four are there, the information becomes the 'Life Force'. There is, however, another intriguing fact here. They cannot remain together without involvement of consciousness, and paradoxically, consciousness does not tolerate any one's 'ego'. To remain in 'physical touch' with consciousness, photon strips its 'ego' and remains as photon equivalent of consciousness (Phot-E-C), the phonon as Phon-E-C, the neutrino as Neut- E-C and conformon as Conf-E- C. Consciousness, integrates with itself all four, stripped of their 'ego', in cosmic integration centre (CIC) and the information becomes the 'Life Force' then (Fig. 36.2).

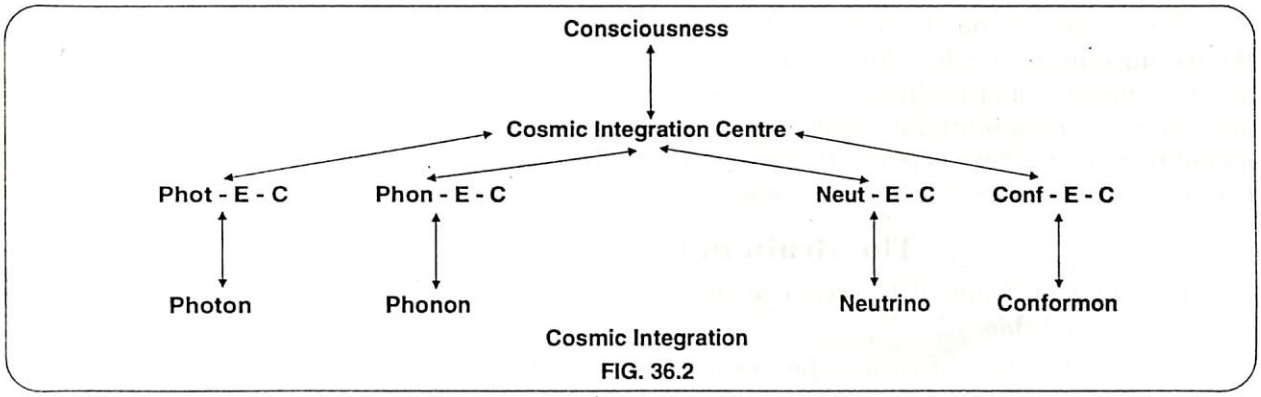
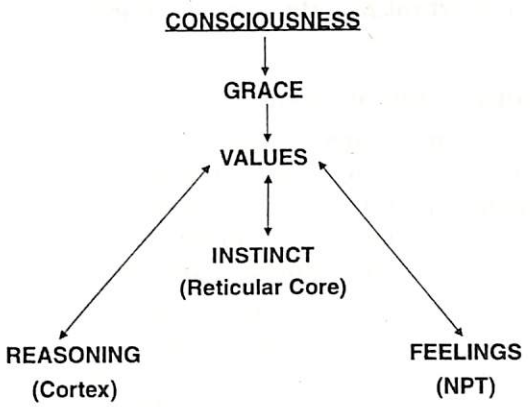


FIG. 36.2

If the residence of consciousness, is in a past-vacuum domain, Phot-E-C, Phon-E-C. Neut-E-C, Conf-E-C are in the 'tunnel' leading from vacuum to consciousness (cf. Fig. 1.3). The research on subtlest of 'subtle energies' should start from here.

The Receptor Organ for the Grace - the Human Brain

Now let us look at the other facet of the Grace phenomenon, the receptor organ for the Grace. Even if the Grace is omnipresent, pouring incessantly on everyone's head, only a few brains 'elevated' to a certain state of consciousness, can 'receive', i.e. can make use of it. Sri Aurobindo, twentieth century's greatest mystic philosopher from India, calls this state as the 'State of Grace'.

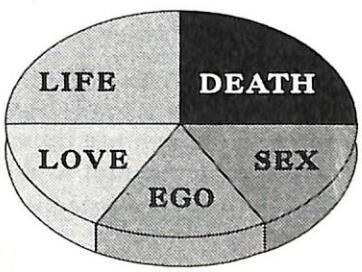


The Grace and Value

FIG. 36.3

When Grace is an information, the context at which it is conveyed, could necessarily be called 'value'. The values are generated when the furious struggle of reasoning, the torrential current of feelings and the irresistible movement of the instinct come into an agreement (Fig. 36.3).

To achieve this State of Grace, the most valuable value is the biological integration. During the efforts to elevate one's brain to the State of Grace, the brain has to pass through and transcend the basic phenomenology of the world machine, the Love, the Sex, the Ego, the Life and the Death (Fig. 36.4).



Elementary Phenomenology

FIG. 36.4

These phenomena shake the instincts (reticular system), reasoning (cerebral cortex) and the feelings (limbic nuclei). An integration is achieved only when in the information processing and responsivity of brain there is no hemispherical bias, there is almost perfect stair synchrony and there is cosmocortical harmony. A structurally polylithic brain becomes functionally monolithic, a very very rare event indeed. This is the reason, why the Grace phenomenon is so rare inspite of omnipresence of the Grace.

The Brain in the State of Grace

1. In the State of Grace, a structurally polylithic brain becomes functionally monolithic.
2. In the State of Grace, the brain processes information and responds in such a way that there is no hemispherical bias, no stair asynchrony and no cosmocortical disharmony.
3. The context for conceiving the information embeded in the Grace is 'value'. The most valuable 'value' in this context is biological integration. This supreme biological homeostat keeps the other subsystems holistically integrated which is important for effectiveness of point one and two.

The 'Receptor' for the Grace :

The word 'subtle' originates from Latin. It means 'finely woven'. The 'subtle energy' which is most finely woven and is both informational (a left hemispheric interpretation) and causal (a right hemispheric interpretation) acts on the most finely woven, the *most sensitive mat* of the human body, the dendritic mat in the upstairs of cerebral cortex. This is the mat or 'membrane' which 'receives' the phenomenal hands of noumenal consciousness.

I like to draw attention of the reader to the effort of detecting the scalar field or quantum field (David Bohm) through chaotic detector. The quantum field is the seething inferno of energy, of very little force, but pregnant with information and supposed to act through changing 'phase-relationship'. The quantum field is said to be more nonlocal than electromagnetic field. The Grace-cortical interaction, I believe, happens in a far more refined plane / (?) / field, the real 'biofield'. The reception of Grace is a phenomenon which is certain. Its final answer cannot come from the quantum theory because at the very core of this theory remains the 'king of ambiguity'. This attention, however, could lead to a reasonably good start for researchers.

The cautioning note here, is not to get distracted by the 'ghost' in the 'vacuum', the shadow energy, the shadow particle, the shadow charges or the shadow matter. The neutrino, conformon, photon and phonon are thought to be of known integrated 'personality', and it is wiser to follow them through vacuum and during tunnelling of vacuum as Neut-E-C, Phot-E-C, Phon-E-C, Conf-E-C, to cosmic integration centre.

The Supreme Consummation

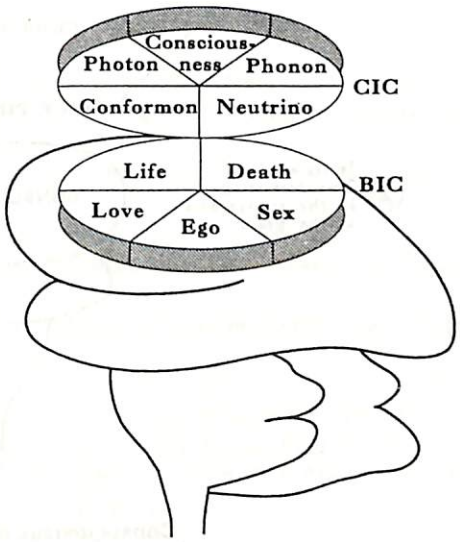
The Supreme Consummation initiates biologization of the Grace by the human brain elevated to the level of the State of Grace. This is how the consciousness inside the brain and consciousness outside the brain become identical. This is the phenomenon when cosmic integra-

tion centre impregnates the biological integration centre (Fig. 36.5). Let me quote from my earlier writings.

"In the abyss of deep blue, the sempiternal light is lit. The destined human cerebral cortex faces Infinity's finite front. Hidden asymmetries in the external cosmos is complemented by reciprocal asymmetries in the neurobiology. In cyclic symmetry and in metric plane, the quivering limbs of the cosmic facet embrace the virgin vibration of the dreamy cords of the living biological corpse. The undying love of cosmic integration centre impregnates the passionate heart beat of biological integration centre."

"A vast quiescence swallows up all sounds into a voicelessness of utter bliss."

(Sri Aurobindo)



Supreme Consummation

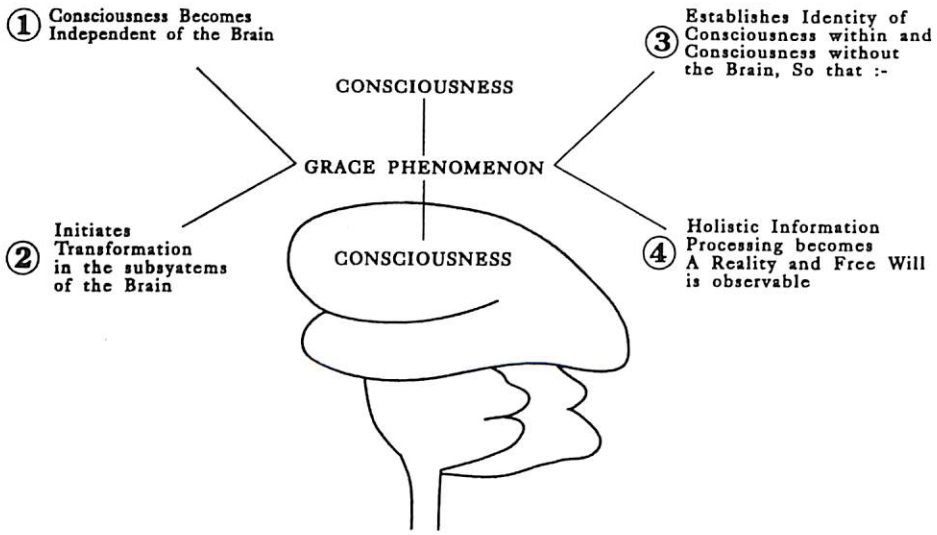
FIG. 36.5

Consequences of the Grace Phenomenon

The Supreme Consummation leads to a series of phenomena in the brain which, in short, may be called the process of transformation. On the other side, it makes consciousness independent of the brain. The independence arrives gradually in concurrence with the progress of transformation.

In the brain, the immediate effect is stabilisation, consolidation of Biological Integration Centre. Structurally polylithic brain starts behaving as functionally monolithic. There is birth of a new paradigm, the paradigm of Consciousness-Mother Nature. There is creative emergence. The outcomes are intuition, illumination and revelation. The new paradigm opens up multiple new research fronts. The Information Theory merges with causality. The whole convention of the nervous system becomes upside down with roots in the eternity and branches below, the peripheral nerves (Inverted Neuraxis).

With establishment of identity of consciousness within and consciousness outside, the holistic information processing, and 'free will' become objective reality (Fig. 36.6).


1 Consciousness Becomes Independent of the Brain
CONSCIOUSNESS
3 Establishes Identity of Consciousness within and Consciousness without the Brain, So that :-
GRACE PHENOMENON
2 Initiates Transformation in the subsyatems of the Brain
CONSCIOUSNESS
4 Holistic Information Processing becomes A Reality and Free Will is observable

Consequences of the Grace Phenomenon

FIG. 36.6

Consequences of the Grace Phenomenon

1. The Grace phenomenon initiates a series of process in the subsystems of the brain which in short, could be called transformation.
2. Concurrent to the process of transformation, the consciousness gradually becomes independent of the brain.
3. The Grace phenomenon establishes identity of consciousness within and consciousness without, so that
   i. true holistic information processing becomes a reality and
   ii. 'Free Will' becomes observable and objective.

As a consequence of Grace phenomenon, the human being continues to evolve from below upwards by a process of self-organization. Not only the censoring 'NO', but also the top-down assurance is offered by Consciousness-Mother Nature. The human being continues to evolve along the great chain of being: the brainstem being, the limbic being, the cortical being, the supracortical being, supracortical godhead (Purushottama) and supracortical autonomy (Sadguru).

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Chapter 37

The Philosophy of a Biophysical Model of the Multiverse

> "Indeed our earth is so infinitesimal in comparision with the whole universe, we, the only thinking beings, so far as we know, in the whole space, are to all appearances, so accidental, so far removed from the main scheme of the universe, that it is a priori all too probable that any meaning that the universe as a whole may have, would entirely transcend our terrestrial experience and so be totally unintelligible to us. In this event, we should have had no foothold from which to start our exploration of the true meaning of the universe."
>
> - Sir James Jeans.

The statement would have remained as it was, had it not been for coining the term 'The Multiversity' by Akhandamandaleshwar Sri Sri Swami Swarupananda Paramahansa Dev. His arrival on this earth and His life-long contribution to build up the human resources for the Multiversity has strengthened the foundation for a scientific revolution ahead.

A shower of Grace from Him has enabled my biological hardware to express the theme in consonance with my education and capability of my infrastructure. Having gone through these pages which are a documentation of the dynamic web I have experienced, by now, we have reached a phase and gained the ability to construct the philosophical outline of a skeleton model of the Multiverse. "As a paleontologist reconstructs an extinct monster from its footprint, so also does a scientist construct his ideas from the messages from consciousness" (Max Planck).

We know Consciousness. We know Mother Nature. We know the creator of this model, a brain elevated to the State of Grace. We know the constants of scientific culture, the triangular guards. We also know the cosmological pleasure triangle and the four forces of Mother Nature.

In this model, 'the physics, biology and philosophy get together'. There is a blend of the three. There is also dissolution of the rift between subjectivity and objectivity. The modeller, the process of modelling and the model can not be visualised in isolation.

The Basement

1. This model, to start with, is based on the profound philosophical statement - what is within is also without. Its starting point is where inside is out and outside is in.
2. The process of merger of within and without involves the cerebral cortex, the neurological pleasure triangle and the reticular system in the brain and the Mother Nature, the cosmological pleasure triangle and the cosmic integrating centre in the external cosmos. The play between cosmic integration centre in outside cosmos and the biological integration centre inside the brain is the basis of construction of this model.

Constants for Framing this Model

There is no foundation, no constant, no framing point in the ocean of bliss. When brought down to the domain of human brain, consciousness is the only constant and all other man-made constants are found to be flux in nature.

The executive front of Consciousness is Mother Nature. Non-violable Consciousness-Mother Nature is the Essence of the Multiversity from which the Multiverse is born.

The cosmic integration centre and the biological integration centre are two framing points. Their efforts to merge results in the birth of the model of the Multiversity.

The Modeller

The modeller is a highly integrated individual. He has integrated five vital phenomena in biology namely Love, Sex, Ego, Life and Death and has a sturdy biological integration centre. His brain is elevated to the State of Grace. He has learnt that this is the only way to get rid of inner contradiction, self deception, logical inconsistency and intellectual sloppiness.

He is also aware of the fact that the Essence of biology is in the limbic system of the brain. Three nuclei there, namely midline septal nuclei and right and left amygdalae constitute neurological pleasure triangle. This is the triangle through which he 'senses' Ananda.

He also knows that reticular core in the nervous system has tremendous potential out of which develop spinal and brainstem integration centres. Unless the seven integration centres of the neuraxis are in consonance with the cosmic integration centre, the model can not be constructed.

The Process of Modelling

The modeller knows his inability to sketch the model till he is confined to his body. He is also aware of the fact that if he leaves his body completely, he cannot use the infrastructure for human expression. Finding no alternative, he stands erect on the highest peak of the human body, on the biological integration centre.

He is baffled in the maze of theories, — the Theory of Relativity, Quantum Mechanics, Uncertainty Principle, Holographic Theory and Bootstrap Theory, Superstring, Supersymmetry, Supergravity, Matter waves, Quantum Gravity etc.

Sandwiched between two autonomous institutions, his body and the universe, the modeller remains unperturbed in cosmic beam. He longs for a beauty, a symmetry, which can accommodate both external and internal cosmos. He conscisously and critically rejects those which try to lateralize him in the great void.

He yearns for cosmic integration centre where major wave package of energy shed their self-properties (ego) to merge with consciousness.

Finally, he finds cosmic integration centre where photon, phonon, conformon and neutrino shed their ego to merge with consciousness.

The 'self' vanishes as the cosmic integration centre catches hold of the biological integration centre. The eternal, immortal, infinite certainty works through his infrastructure. The process of modelling starts.

The Model

1. The Transcendental Core :

The first thing to be revealed is the transcendental core (Fig. 1.3), between two phase specific consciousness(es), between two holograms, between two neurons, between upstairs and downstairs of cerebral cortex.

The overall design of the 'edge' of the universe, the principle of construction of the mother's womb (Fig. 1.5), the structure of a cell membrane (Fig. 1.4) have the mimicry of this transcendental core.

2. The Triangular Guard :

There is a triangular guard. Because of its tremendous dynamicity, it obscures **the Cause** from 'ordinary' people. This is the cosmological pleasure triangle.

Constants in Science	**Constants in Biology**	**Constants in Philosophy**
Entropy Barrier	Instinctual constant	The Sustainer
Velocity of light	Integration centre	The Destroyer
Planck's constant	Supracortical Autonomy	The Creator

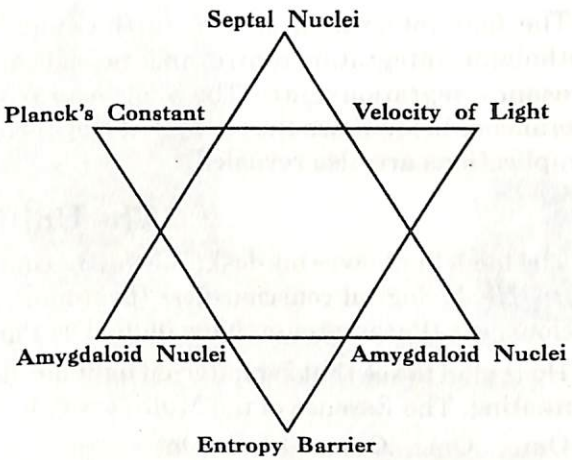
3. Superimposition of two triangles. A new wonderment !

Triangle in the limbic brain(NPT). There is also triangle in the cosmos (CPT).

Cross superimposition of two triangles is a symbol of integral yoga of Sri Aurobindo!. (cf: Double triangle of Yeats's A Vision, double triangle in Shi'ite philosophy).

Double triangles indicates that this new paradigm, which takes a considered view of the ecology of consciousness, is simultaneously a top-down and a bottom-up one. Only top-down paradigm breaks apart during revolution. Only bottom-up organization remains truncated for

ever. The double triangles can explain the simultaneity of hierarchy and holography, transcendence and immanence, verticals and horizontals.



Superimposition of NPT & CPT

FIG. 37.1

4. The four forces are four expressions :

The gravity, electromagnetic force, strong force and weak force are four expressive routes of cosmological pleasure of supracosmic Mother, the Mother Nature.

The limbic triangle also expresses through limbico-hypothalamic (emotional), limbicocortical associative (intellectual), limbicocortical decisive (mystical) and limbicoextrapyramidal (executive) - the four routes. In supracortical parlance, these pathwys are utilized optimally in Bhakti-Yoga, Gyana-Yoga, Raja-Yoga, and Karma-Yoga respectively.

5. Supracosmic Mother or Mother Nature :

Beyond space, time, cause, pleasure, there are emptiness, stillness, silence and nothingness respectively. There, in the vacuum, the Great Void, Mother nature reveals Herself. She is the executive front of Consciousness. Supersymmetry is Her body. Superstrings are Her garlands. Supergravity is Her majestic 'saree' (robe). Eleven dimensional is Her pleasure point. She expresses Herself through gravity, strong force, weak force and electromagnetic force.

In the human body, Mother Nature maintains the polarity of consciousness, its hierarchy consciousness from the peripheral cell to the topmost neuron. Inside the cell, mother Nature is responsible for integration. She is also responsible for inclusion of smaller holograms in a bigger hologram, in the construction of universe as well as of the cell.

6. The Love :

The modeller, by this time, becomes aware of the Essence of the Multiversity inside his brain. The cerebral cortex, the limbic triangle and the central reticular core are involved in such experience. He experiences supracortical consciousness as pure Love. Whatever love or sacrifice one observes in day to day practice, he realises, is nothing but successful expedition of this supracortical consciousness through numerous obscurities of infrastructure of the nervous system.

In terminology of physics, he finds, love is that n-dimensional abstract which fondles, kisses, embraces, and penetrates through cosmological pleasure triangle (CPT) guarded by constants of Prigogine, Einstein and Max Planck.

7. The Cosmic Integration :

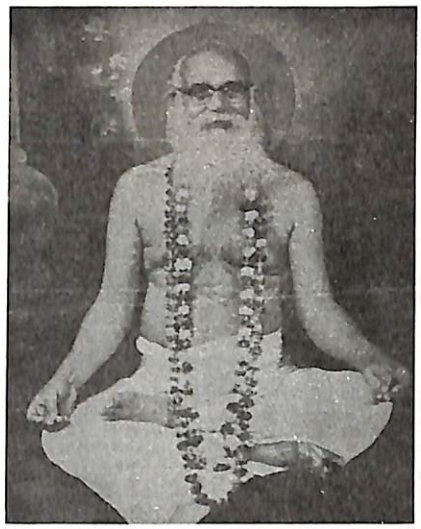
The four integration centres in the spinal cord, the brainstem integration centre, the hypothalamic integration centre, and the biological integration centre work in consonance with the cosmic integration centre. The whole neuraxis is an inverted tree with its root in the eternity and branches below down the earth. The loops of integration and their relevant cosmophysiological implications are also revealed.

The Unification

The modeller leaves his desk. During the course of modelling, his nature has become Mother Nature. His biological consciousness (jivatman), self-consciousness (Atman) and supracortical consciousness (Paramatman) have unified as Purusha.

He is glad to see that sempiternal light has been lit. The seed of the Divine race has started germinating. The Essence of the Multiversity has been revealed on this earth.

Om.....Om.....Om.....Om.....Om



38

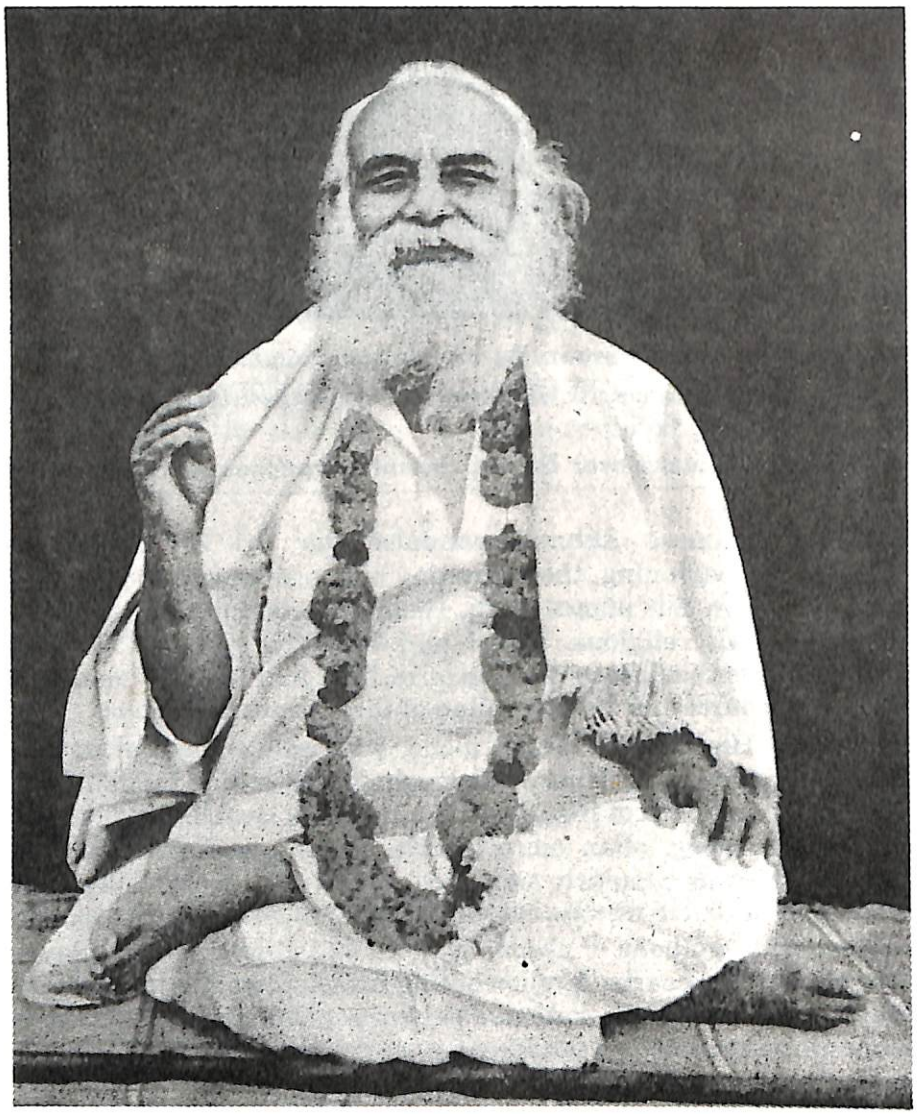
His Holiness Akhandamandaleshwar Sri Sri Swami Swarupananda Paramahansa Dev

"I have come to create a new history on this planet. To follow the beaten track is not my way."

— Akhandamandaleshwar Sri Sri Swami Swarupananda Paramahansa Dev

My Gurudev, His Holiness Akhandamandaleshwar Sri Sri Swami Swarupananda Paramahansa Dev, is the beginning, the beginning of a new humanity, a new culture, a new discipline, a new history. On this planet earth, He is the originator of the Akhanda Paradigm on spiritual, philosophical, religious, moral and executive planes. This selfless 'Self' of multidimensional genius is the first to coin the term, 'The Multiversity' and spent His life time on creation of human resources for it with a plan of three centuries ahead.

Though He started His journey almost alone, with only a handful of totally committed followers, He has been expanding Himself throughout the entire humanity. Those who are fortunate to have a personal touch of Him, have found Him, a lovable, cherishable and definitely an unforgettable human being, often more lovable, more memorable than parents, spouse, children or friends. So, He was popularly addressed by His followers and devotees as BabaMoni (A Gem of a Father Spiritual). He was successful to communicate His message holographically, in different frequencies, to millions of people in India and abroad, surely playing through the most sensitive chords in their hearts. A rejuvenating transformer, the melting Love, the eternal yea, an embodiment of biological integration, a perfect personification of Consciousness-Mother Nature, this astounding supracortical autonomy is an exemplification of a versatile genius and an integrated self rolled into one, where the strongest muscle and the sensitivemost heart are in perfect coordination with the finest brain, where a weather-roughened, experienced old great grandfather of eternal spiritualism, a pragmatic, realistic, down to earth young and an unattached, simple, independent eversmiling baby are all in one. In multifarious manifestations of His sound infrastructure, one can find within one, a planner, an organizer, a programmer, a commander, a follower and overall an executive. As an author of more than hundred of books (e.g. twenty four parts of *Akhanda Samhita*), He was his own secretary, own composer, own editor. Each one of His nearly one thousand composed poetry, now available in form of four books, is a masterpiece, elevating, transforming and manisfestationally creative. The terms and concepts of Ayachak, Abhiksha, Akhanda are some of His new contributions. In His personal life, He was his own accountant, own lawyer, own medical assistant, sometimes His own cook. His factory for Ayurvedic Medicine in Varanasi promises for revival of the entire discipline of Ayurveda.



His Holiness Akhandamandaleshwar Sri Sri Swami Swarupananda Paramahansa Dev

"A person lives in his voice." ..... "What Swami Swarupananda Paramahansa said was less important than how he said it, backing up, underwriting each statement with what he was." ..... "It was clear that, inspite of an education so thorough it included all the physical sciences as well as all types of yoga, the man had kept an innocent heart."
"There is no doubt about it, this bachelor was transparently overflowingly, invincibly happy, his outgiving tremendous." ..... "His remembered wisdom was like piano chords underneath a running melody."

- Virginia Moore
in The Whole World Stranger, MacMillan Company, New York, pp. 168-170, 1957.

All His individualisms bear a stable radiance of His perfect universalism and all His universal appeals are found to be individualized in Him. Hence, it was possible for Him to deny even the Grace of God till It has been meant for all and everyone. Hence, the so called 'liberation', for Him, was a collective and holistic reality.

Himself a Sadguru, He used to sit with thousands of disciples to lead the congregational prayer (Samabeta upasana) in front of Mahamantra, Nadabrahaman, 'Om'. Himself a brahamachari, he showed the way for perfecting conjugal life of thousand of couples. Himself a mass leader, He was stringent follower of the laws and principles of human nature. An embodiment of free will, He chained everyone available around, in a network of Love.

My relationship with Him, in short, is a relationship in Love between 'you' and 'me' ('I' and 'i'). I first saw Him when my father took me to Him at the age of ten. My conscious contact with Him began in my teens. He was about six decades older than me. Still, there was no problem or deficit in communication between us. There was very little verbal or physical communication, very little personal advice, never any theorization, never any expressed desire or expectation on either side, in our relationship. It began as relationship in Love in silence and continued to remain so.

To the scientific community, which takes science as study of measurable, quantifiable reproducible, His offer is a science of quality, a science of values, their origins, their relationship, their courses and their destinies. How does the devotional chanting of Mahamantra, 'Om' (its numerical aspect is quantifiable) bring a qualitative transformation in human natures, is a frontier of research. How a brain like His could process such an enormous amount of meaningful information for almost three quarters of a century, for a well defined purpose three centuries ahead of His time is not only amazing but educative too for so many scientists to lay foundation for their objective science.

Along with all His followers and the members of the Akhanda Society, with deep reverence and profound gratitude I humbly mention here the names of Brahamacharini Sadhana Devi and Srimat Snehamay Brahamachari whom I find inseperable from the soul of Gurudev in all His holostic approach towards Divine Materialism. One cannot think of materialization of any of His dreams without them. It is they who have made the executive front of consciousness, i.e. Mother Nature more explicit, more sensible to us. Without their arrival it would not have been possible to see Mother Nature in person.

Though it is futile to count or judge His contribution for humanity in this small concluding chapter and besides the fact that it is not the appropriate forum for it, I will be failing in my duty if I do not mention about His most significant contribution to humanity. His most significant contribution and for me, *the unique* contribution to humanity is Sri Sri 'Mamoni' (Brahamacharini Samhita Devi), when He chose Her as successor of His everything. During the final play of His Mortal body, in one stroke he had eliminated the great void and initiated Mother Nature to take care of His/Her creations. In the process, He has offered opportunities to the entire humanity to communicate, to interact, to play, to honour and to worship Mother Nature in person.

Pranam to Him / Her.

Ψ

Glossary

Definition of Consciousness :

It cannot be defined. It can be qualified.

Qualification of Consciousness :

Transcendental Qualification	Qualification in Void	Nontranscendental Qualification
Immortal	Silence	Cause
Eternal	Stillness	Time
Infinite	Emptiness	Space
Ananda	Nothingness	Pleasure.

Four Aspects of Consciousness :

Transcendental, Immanent, Transformative and the aspect of New creation.

The transcendalist accounts for the first; the pantheist, the second. The perennial philosopher is conscious of the both. The Sadguru is the personification of transcendental, immanent and transformative aspects. The Akhanda Paradigm takes note of all four.

Five Elements in Biological Consciousness :

Being conscious of External physical world.

Being conscious of Internal organic world.

Being conscious of Thinking or Philosophical world; Outcome is Intentionalism.

Being conscious of 'Self'.

Being conscious of 'supracosmic' world; manifested as Love.

Milestones of States of Consciousness :

A. Physiological (retained Integrity)

Consciousness	The Being	Manifestation
1. Brainstem consciousness.	Brainstem being	Awake, alert, oriented
2. Limbic system consciousness	Limbic being	Motivation to seek pleasure and avoid the unpleasant.
3. Cortical consciousness	Cortical being	Self-consciousness Discrimination, Judgment, Intellect.
4. Supracortical consciousness	Supracortical being	A personality beyond polar opposites. Love dominated Ego. Inexhaustibility within cortical limits.

Supracortical consciousness	Supracortical Godhead	Living example of everlasting ascension Magnetic attractiveness.
Supracortical consciousness	Supracortical Autonomy	Inexhaustible everness. Melting Love.

B. Pathological (Loss of Integrity) :

1. Functional.
2. Organic lesion in the brain.

Note: Dreams, Infatuation, Fantasy, Imagination have cortical and supracortical components.

Contents of Consciousness :

Information, Memory.

Feelings, Thoughts.

Faith, Belief, Conviction.

Emotions, Devotion.

Derivatives of Consciousness (Milestones on the way to and from Consciousness) :

Milestones on the way from Sensation to Consciousness :

Sensation, Perception, Cognition.

Attention, Concentration, Meditation, Samadhi.

Imagination, Abstraction.

Milestones on the way from Consciousness to Sensation :

Response, Will, Volition, Language.

Illumination, Intuition, Revelation, Ananda.

Functions of Consciousness :

Integration of functions and integration of informations.

Synthesis.

Generation of new function, new information.

Transformation of the subsystems.

New creation.

In the process, it eliminates those which are contrary to above functions. This is 'censoring'.

Mode of Functioning of Consciousness :

A. Mother Nature is the executive front of Consciousness.

She is the subtlest of all subtle energies.

B. She is the embodiment of 'Free Will'.

How 'Free Will' could run 'on the wheel' has been described in page 239 (Fig. 35.2) .

C. Modes of functioning which are identifiable by senses (Fig. 35.1) are,
Self-organization,
Bootstrapping,
Holographic way of functioning.

Consciousness Changing Strategy :

Meditation, Prayer.

Sports, Dance, Fishing.

Use of symbol, myth, metaphor, cartoon.

Joking, Story reading, Movie watching.

Creative activities and Experiences.

Biofeedback.

Q: Could Consciousness function independent of Brain?

Ans: Yes. It does so when the identity of consciousness within and consciousness outside the brain has been established. Establishment of identity makes 'Free Will' and holistic information processing, an objective reality.

Q: Is Consciousness, a function of Brain?

Ans: The brain is an organ evolving to accomplish its unique function - unification of consciousness within and consciousness outside it.

Whether the consciousness within the brain is a function of it, is the question.

The organ, brain, is the biological hardware for a software of energy. This energy in its subtlest form is the executive front of consciousness. Consciousness within the brain has been constantly trying to make the hardware conducive for it. On the other hand, any type of functioning of the brain brings wave in the subtle energy domain which alters the states of, or content of consciousness. What is emergent out of brain function is not consciousness, but the altered state of consciousness, with altered contents, which if guided to the extreme point with retained integrity, could lead to elevation of the brain to the State of Grace - a precondition for Supreme Consummation.

Q: Does consciousness have a seat (Localization) in the Brain?

Ans: Consciousness is diffusely distributed. If looked with a mechanistic view, there is focal 'concentration' / 'polarization' in different nuclei, tracts and neurons. There is a hierarchy / polarity of distribution of consciousness within the brain. The ultimate polarity is designed for a merger with outside universal consciousness. So, the cerebral cortex is the most important region in this context. It is my personal conviction that the most important area in the cortex is paracentral lobule.

Q: Can Brain Mechanism explain Consciousness in its entirety?

Ans: It seems futile for the brain to attempt to explain the mechanism of consciousness outside it. To a certain extent, it can explain the mechanism of consciousness

within the brain. The brain mechanism can offer explanation for the states of consciousness, contents of consciousness, even functions of consciousness. The brain mechanism cannot explain the entire *mode* of functioning. The brain cannot explain its own mechanism of explaining i.e. the 'How' in its entirety. It cannot explain 'Who' is there to explain it. This 'Who' is the 'self' - which is *consciousness* itself. This 'How' is functioning *Mother Nature.*

Q: Do you think, in the consciousness grandeur, neurons are the only important cells?

Ans: So far as the brain is concerned, we are traditionally taught to think of the neuron immediately in the context of consciousness.

But look! The brain, as an organ for functioning of consciousness, does not contain only neurons. Seven out of every eight cells in the brain are glial cells. Then, there are blood vessels and cerebrospinal fluid.

Prof. Robert O. Becker has suggested that glia cells 'are responsible, at least in part, for sensing the geomagnetic environment' (ISSSEEM Newsletter 1,(3), p 5, 1990). Prof. Franco Bistolfi has advocated existence of Bioconductive Connectional System (B.C.S) amongst extracellular connective tissue, cell to cell junction in the parenchyma, integrin receptor on cell membrane and the cytoskeleton. If one extends this concept in the brain, must be with necessary modification (because there are no fibroblasts or collagen in the brain, but there are glia and glial fibrillary protein), then the glial system gets a new 'life' to become active participant in the grandeur of consciousness.

There are also closed circuits, the circulatory channels, which conduct electrically charged fluids in the nervous system. The lymphatic system is replaced in the brain by cerebrospinal fluid. When one extends Prof. Nordenstrom's concept of Biologically Closed Electric Circuits (BCEC) and Vascular Interstitial Closed Circuit (VICC) in the brain, then the peripheral consideration that the human body is in electromagnetic pool is transformed in supracortical parlance into a central concept that the human brain is the sounding board of Mother Nature.

What I mean to say is that the neurons, the glia, the vessels and the CSF system, all participate actively in the grandeur of consciousness.

Q: Are Consciousness and Mind Synonymous?

Ans: No, not at all. In certain phase, the mind is an obstacle for consciousness. At time, the mind becomes vehicle of consciousness.

Q: Is the Brain organ of Mind?

Ans: Yes, for the being. There are also other mechanisms to have a functioning mind outside the brain.

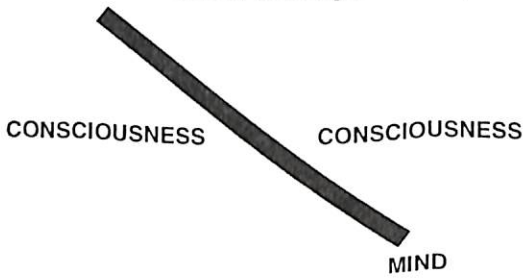
Q: What is Mind?

Ans: In 1982, I came across a book, 'Mind, Its Mysteries and control', written by Sri Sri Swami Shivananda, the opening sentences of which are, 'THAT which separates you from God is Mind. The wall that stands between you and God is

mind'. Almost during the same period, on my way, I came across Sri Aurobindo's voluminous literature where I was struck by one line, 'Mind is the vehicle of consciousness'. The paradox was resolved only when my 'mind' broke into pieces and the consciousness within and consciousness outside the brain kissed each other.

According to my realization, interposition of mind is necessary to separate, to unite and to establish a communication between two conscious systems. For the existence of two consciousness, for the origin of dualism, one needs a mind in between. 'I am alone, only myself. I *wish* to become many' - since that day, the necessity of a separate existence of mind is felt. The mind is that cuts consciousness into two. The mind is the active communicating 'media' between two conscious systems.

The consciousness within and consciousness outside the brain are separated by a mind, which have been described in chapter one, as transcendental core, the neural substrate for which could be the cascade of synapses in the upstairs of the cerebral cortex.



Mind cuts Consciousness into Two

FIG. G.1

The consciousness of a cell, as a self-organizing unit, communicates with consciousness outside through the cell membrane.

The similarities have been noted in materialistic planning of the cell membrane and the various planes of the transcendental core.

The natural genital passage where two conscious gametes fuse to form a conscious zygote, is also constructed on similar principle as that of transcendental core. The apparent void, the great void and the divine void are represented by the fornicial space in the vagina, uterine cavity and ampulla of the uterine tube respectively. What happens to the 'mind' of the baby born out of 'in vitro' fertilization, where the adventurous struggles of spermatozoa for the love of an ovum have not been there, is a notable research frontier in this context. The mind had existed long before the 'life' in biological system came into existence. The mind exists in the cosmic plane, in the global plane, in the extraterrestrial and ter-

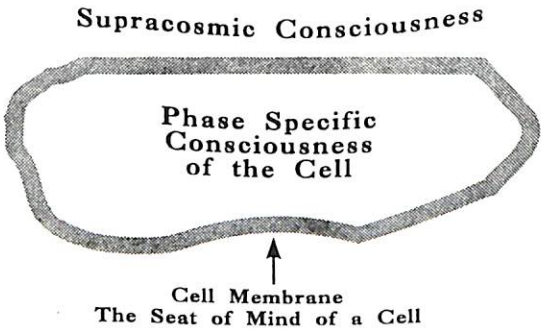
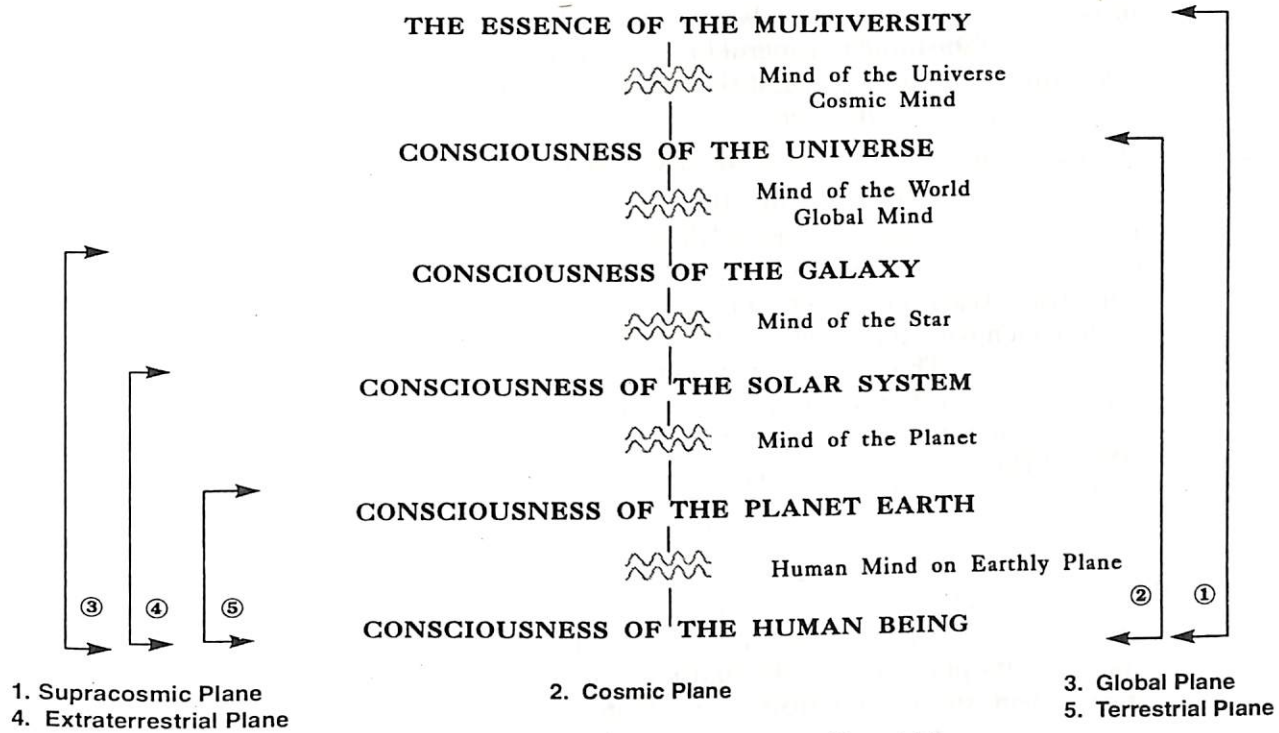


FIG. G. 2

restrial planes and finally, in the biological plane (Fig. G. 3).

The word 'evolution' of mind should be used strictly in concurrence with the



The Several Planes of Mind and Minds at different Planes

FIG. G.3

'evolution' in physical, materialistic, and biological systems. The culmination of the process of evolution of the biological system is achieved when it touches of the supracosmic plane, when the 'mind' of the biological system in the human brain is also found to evolve as 'cosmic mind'. Only then, one finds the 'mind' of the universe (Fig. G. 4) separating, uniting, and establishing communication between universal consciousness (phase specific consciousness of the universe) and Interuniversal Essence or the Essence of the Multiver-

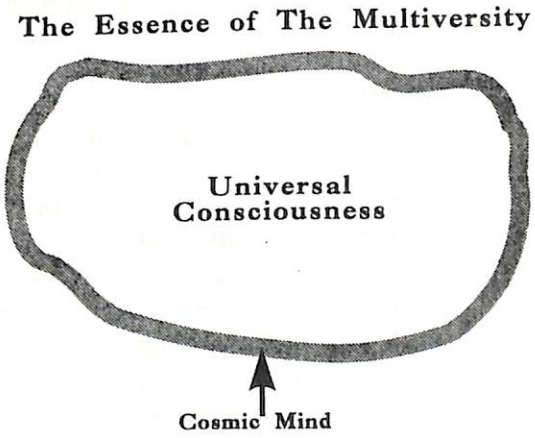


FIG. G.4

sity. In other words, those who live in the Essence of the Multiversity do possess a cosmic mind or a mind of the universe.

I wish to emphasize the fact that the most evolved mind is the mind of the universe. If one understands the mind of the universe, one can solve the mysteries of the mind in general to a great extent. If, here, I incorporate Stephen Hawking's concept of 'edge of the universe', it is certain that one will find the mind of universe at its edge.

Q: How do you react to the statement the neural network is a model for mind?

Ans: The mind performs many functions one of which is computational activity. In neural network, multilayered artificial neurons or elementary processing units, called modes, work on the basis of 'connectionism' where complex nonlinear, nonparametric relations of input and output are observed. The neural network could be a model, a good model, for understanding the computational activity of a closed mind. Then, there are papers where the scientists have been trying to correlate the statistical output of electronic random number generator (RNG) with mental intention. The neural network has been found a good model for this (*Dean I Radin in J.S.E 7(4) pp 355-373, 1993*). Inspite of those observations, I still maintain that neural network is a model, at best, for a closed mind. The mind we are talking of, could be 'close' or 'open'. It is the closing of mind which is the last brush in finishing a pattern. The connectionism in Artificial Neural Network (ANN) and the connectionism amongst the real neurons are different at very basic level. In latter, the synapses belong to 'Living Units' and there lies the crux. Its plasticity, its fluctuation, its dynamicity, its attentional screening mechanism and the quantum superposition, quantum randomness, quantum coherence could be far more complex than those in ANN. The complexity is further compounded by the presence of B.C.S. in the brain (both in neuron and in glia), which is not there in ANN.

Q: You mention there are many functions of mind. What are those?

Ans: At the outset, one must remember that mind is an organ of a living system. One of its functions is computational ability - which could be explored by computer scientists.

The mind in a living system can remain 'open'. Open to what? To 'no space no time' zone! So, the 'self' can become curious, it can imagine, it can get inspiration, it can show originality in its approach, it can get insight, it can judge the accuracy in terms of changing reality. It can evolve.

Next important function of mind is its transcension capability. Transcension of what? Transcension of space and time, transcension of void, transcension of so called 'death'. During this phase, mind itself heads towards transformation.

The transformation of mind takes place when following transcension, the mind can interact with Mother Nature, when the 'self' chooses *the Cause* amongst causes.

At the completion of transformation, the mind becomes the vehicle of consciousness. This ushers a new function of mind, the new formation.

Finally, the mind is capable of integration of above mentioned functions, — integration of horizontals and verticals, integration of closeness and openness. This is the cardinal characteristic of a completely evolved mind.

Q: What is the relation between self-organization and mind?

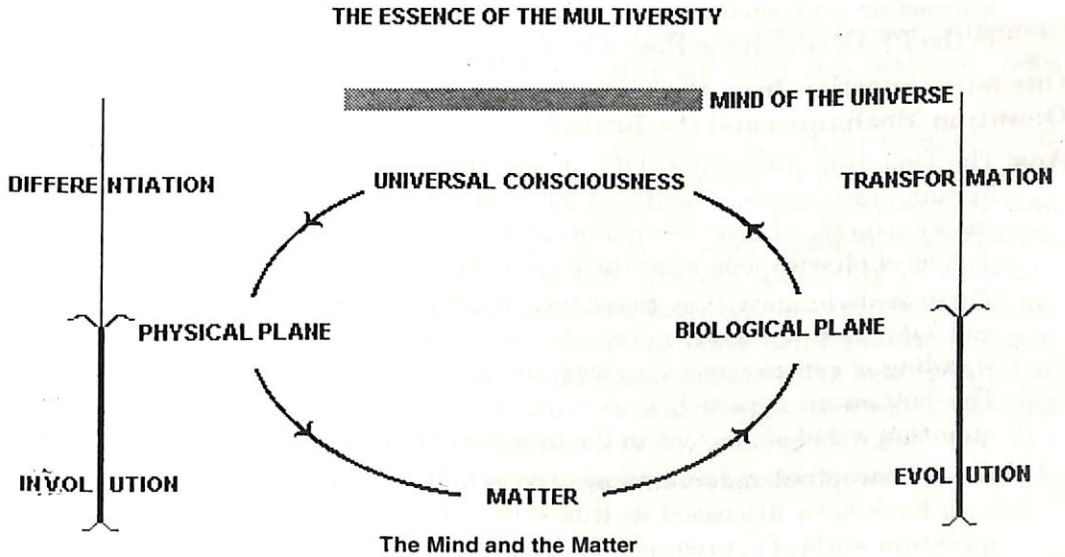
Ans: The self-organization is a process in nature which happens in a thermodynamically open system. A thermodynamically open system is conscious. Its phase specific consciousness communicates with the TE, so that the process of self-organization can continue. The communication between two conscious systems needs a mind.

Q: What is Life then?

Ans: To me, everything is alive. The universe is alive, the stone is alive. But the usual sense in which this word 'life' is used is life in a biological system. The biological system has evolved from matter.

The Life has emerged through matter (Fig. G.5) and in the process, there has been biologization of several properties of matter, including even superconductivity. It had been possible when the infrastructure of matter became integrated enough to communicate with 'consciousness' in a higher plane. Life is a phase-specific consciousness, possesses self-organizing capacity, is thermodynamically open, communicates with higher consciousness through a mind.

The mind in a biological system evolves with the life, and life as a system has evolved to the highest level in a human being. It is possible to have a cosmic mind in a human body.



The Mind and the Matter
FIG G.5

Q: Where do you place 'matter' in your scheme?

Ans: In the cycle (Fig. G.5) of becoming as shown above, the matter is placed diametrically opposite to consciousness in the circular stretch / spectrum of events. For a spiritualist, matter is the nethermost and the spirit, the summit. A true materialistic thinks in the reverse way. He understands the spirit, but not divorcing it from the matter. For him, the spirit is a form of matter. Matter is the end product of the involution of consciousness. It is also the basement for evolution of a biological system. A cascade of involution brings consciousness down to the matter and a series of self-opening in the matter leads its evolution through the biological system to consciousness again.

Q: Do you mean to say that this 'self' is there even in the matter?

Ans: Of course ! Self is the dynamic facet of consciousness. So, many think, they are identical. At the cosmic phase when consciousness is cut into two, mind was essential for establishing communication between the two, and the 'self' was felt essential for organization (self-organization) of the descendent. Mind separates the two 'self's ('I' and 'i'). In the matter this 'self' (i) is most dormant, most hidden. Through the evolution of the biological system this 'self' has again reached the forefront. Self-consciousness is supposed to be human characteristic. The human self has been successful to identify itself with the Essence of the Multiversity.

Q: Does matter have a mind?

Ans: Yes. That is why matter evolves.

Q: Could Mind become matter?

Ans: If I am free to quote Swami Vivekananda, then, 'Yes'.

The science has just stepped in this 'becoming'. There are evidence of active interaction between human mind and REG (Random Event Generator) machine, in the PEAR (Princeton Engineering Anomalies Research) Laboratory, USA.

Q: One more question from the viewpoint of Physics. What is the relation between Quantum Mechanics and the Brain?

Ans: The Quantum Mechanics (QM) is one of the finest products of highly evolved human brain, predominantly of left brain. That the human brain, particularly consciousness, affects the quantum observation has been recognized by the doyens of physics soon after the birth of QM.

There are two approaches, two views, in finding out the interrelationship of brain and QM. The top-down approach says that unless a new conceptual understanding of consciousness arrives, the incoherence of QM cannot be removed. The bottom-up approach lives with the hope that if one tries to explore the quantum world of neurons in the brain, one may get into consciousness.

A new conceptual understanding of consciousness, what is it and what does it do, - all have been discussed in this work. On the other side, the exploration of quantum world of neurons is in its infancy. The exploration from the bottom could

begin in three levels. First, the whole brain's output could be expressed as quantum and then one can explain randomness, superposition and coherence of a number of waves of similar origin and nature. The second is, to explore the quantum communication inside the brain, in the synapses and in the cytoskeleton of neurons and glial cell. Certain quantum events during such quantum communication may be the answer for many long standing questions in Neuroscience. For example, quantum nonlocality could bring solution for 'binding problem' in the brain and unitary experience as suggested by Penrose. Penrose also points out the probability of existence of a nonalgorthmic way of information processing (quantum computation) in the brain to explain the mechanism of intuition and subjectivity. The third area where exploration could begin, is the QM at subcellular level, — inside microtubules, cell membrane, in the water molecules ordered at the surface of subcellular structure. Ian Marshall (1989) pointed out that the macroscopic observable of Q.M. (i.e. Bose-Einstein condensate) which could be seen in body temperature is Frolich's pumped phonon system. Here is a place where what we call phenomenal hands of consciousness could enter the quantum communication in the living state. Through the Bose-Einstein condensate at the apical dendrites of neurons at the top layers of cerebral cortex one could start exploring the openness of the brain right out at the domain, which I have called supracortical consciousness.

Q: Could one explain Consciousness through Q.M.?

Ans: No, No. But one can reach consciousness through Q.M. First, from QM, one reaches the void, then through quantum void, tunnellizing the void, one may have a reasonable good glimpse of consciousness. In this way, the quantum mechanics which, at present, is nontranscendental could lead to new opening for its own.

Q: You are the first to coin the term and concept of supracortical consciousness. Why did you choose the word 'supracortical' and not others, like 'extracerebral' or 'transcortical'?

Ans: The experience I had been passing through was expressed in the clothing of words as 'supracortical'. I did not choose or think. The word came automatically, spontaneously. Now I see, the term 'supracortical' is more anatomical and indicates more proximity. It is more specific, too. It says 'on the cortex' - specific and anatomical in description. It also indicates the possibility of a hidden interconnection. It brings home the point that cerebral cortex receives something on it from above. The term extracerebral, on the other hand, just says, 'out of cerebrum' - no proximity, no specificity, and is less anatomical in description. The term 'transcortical' describes something transcending the cortex, something emerging through the cortex - with a possible connotation of 'inside out'. The term 'supracortical' may be used in expression of both 'outside in' and 'inside out'.

Q: What do you actually mean by S.C.C.?

Ans: Supracortical consciousness is a state of human consciousness in which the 'self', sees the neuraxis as an inverted tree, with its root in the eternity and branches below, the peripheral nerves. The behavioral expression of S.C.C is Love, manifested as sacrifice for the beloved. This state of consciousness is so integrating that even the cells of the sole of the foot realize that their neural representatives have access to 'supracosmic' plane, so that the descent of 'supracosmic' into *'earthly'* reality is in the offing.

Q: How do you relate 'Supracortical' and 'Supracosmic' Consciousness?

Ans: When you talk as a biologist, you choose the term 'supracortical'. As an astrophysicist, one prefers the word 'supracosmic'. The cortex is the creator of the picture of the universe and the cosmos. Above cortex i.e., supracortical, is the supracosmic. The 'Essence of the Multiversity' could embrace all such expressions.

Q: Could you please clarify your two terms — Transformation and New formation in respect to human being?

Ans: The evolution of the biological system ends when the phase specific consciousness of life reaches the plane of void. If it continues to survive in the void, that is possible only if the phase-specific consciousness in life remains in touch with the TE, then the series of 'changes' which follow in the subsystems of the biological instrument, could be called, in short, transformation. The cyclical spectrum is completed with completion of transformation, when consciousness within the brain and consciousness outside the brain establish identity. There are very very rare occasions when the 'Desire' / 'Wish' / 'Will' of 'I' send this biological system back from the supracosmic plane to the geophysical milieu. Then, there is a new formation. In concurrence with the highest plane, evolution, transformation and new formation happen in three spheres one within the other.

Terrestrial and Extraterrestrial sphere	**:**	**Evolution of human being**
Cosmic sphere	**:**	**Transformation of human being**
Supracosmic sphere	**:**	**New formation from human being**

Sri Aurobindo took a note of this new formation from human species and described it as the Descent of the Divine. He called human being a *transitional being*. My Guru, around the same period, not only established this phenomenon in Himself but actively worked also for almost three quarters of a century for creation of human resources to materialize this phenomenon. He visualised, that within three hundred years this new species will dominate the earth.

Q: What is unique about this New Formation?

Ans: Look ! the new formation is always unique. The new formations have been happening in every plane, — physical plane, new matter in materialistic plane, new life in biological plane. Whenever the point of incomplete involution or evolution has leaped forward to touch the T.E, by 'Desire' / 'Wish' / 'Will' of the T.E., this new formation has taken place. *The uniqueness of the present new formation are three.* One, it has been happening in the highest biological plane when the evolution of the human brain has reached near-completion point. Second, which was in past an isolated event, has been happening in massive scale. Third, the human beings, bestowed with self-consciousness, are active participant in this new formation.

The whole life of my Guru, as I understand Him, is exploration of this triad. Hence, it was so easy for Him to declare, 'I have come on this earth to create a New. To follow the beaten track is not my way.

Infact, the essence of this Akhanda Paradigm is this new formation.

Epilogue

My formal training is in the discipline of Medicine. From that point of view, I coined the term and the concept of supracortical consciousness in 1985 and following a decade of journey I landed up with the Essence of the Multiversity. If the present description of our universe is a cortical construct, the supracortical consciousness is appropriate for starting the journey towards the Essence of the Multiversity. The outcome is a new paradigm, the Akhanda Paradigm. *The Akhanda is one who has conquered his brain completely. He stands on his own brain with the flexibility and determination of Mother Nature.* To him, the brain is most precious because it is the organ which establishes identity of the consciousness inside and the consciousness outside the body.

During my introspection about this contribution, I find that it has been an everexisting paradigm of Consciousness-Mother Nature, and I have only made the scientific community aware once again of it. The reality of the paradigm is yet to be worked out.

As part of introspection, I, a doctor, asked myself,. 'What is the impact of this new paradigm on the twenty first century's Medicine? The answer which comes out at the time of concluding this work, could be organized as follows.

Impact on Human Anatomy

I foresee the revival of cross sectional anatomy (which includes horizontal and oblique sections) not only because of advancement of imaging technology, like ultrasound, CT scan and MRI, but also for understanding body planes as described in chapter 25, for diagnostic and therapeutic purposes. The placement of lead, needle, electrode etc, at different points and planes of the body needs thorough knowledge of cross sectional anatomy.

Impact on Human Physiology

1. Consciousness :

   Consciousness will be taken as causal. Supracortical consciousness will be understood as existing reality.

2. Psychology :
   (i) Spectrum of Psyche.

   Love, Sex, Ego, Life and Death form the natural spectrum of psyche. Emotional, Intellectual, Mystical and Execution are four expressive routes of psyche.

   (ii) Psychic skeleton.

   Psychic skeleton (chapter 26) for the whole body will be mapped out.

   (iii) Biological Integration Centre will be recognized as supreme biological homeostat.

3. Neurology :
   (i) The cerebral cortex will be proved to be 'receptor' for Information and Grace.

(ii) Role of neurological pleasure traingle in relation to Life-Line in the brain could be worked out.
(iii) Seven integration centres in human neuraxis will be clearly worked out.
(iv) Brain, as an organ of Information processing and Responsivity, will achieve its uniqueness (chapters 14, 15).
(v) Grace phenomenon would be known as ubiquitous.

4. Psychoneuroimmunology and

5. Psychoneuroendocrinology :

In the New age paradigms, the above mentioned two disciplines have already started crystallizing out. With advancement of Consciousness, Psychology and Neurophysiology, concretization of the two disciplines would be more evident.

6. Whole Body Communication system :

As described in chapter twenty six, the discovery of whole body communication system at 'Atmnic', 'Pranic', psychic, and biophysical planes are on the anvil.

7. Cell Biology :

Cellular integration at biochemical, biophysical and psychic planes would be better understood.

8. Molecular Biology :

The Akhanda Paradigm declares that biochemistry and biophysics of Love is intimately linked with biochemical and biophysical aspects of molecular biology in gene expression. Only the missing links are to be found out. Once the missing links are revealed, the present molecular biology is expected to take a U-turn.

9. Respiratory Physiology :

Apneustic, Pneumotaxic, Inspiratory and Expiratory centres in the brainstem are autonomus. The outcome of their activities is breathing. By controlling the peripheral manifestations, through breathing exercises, the being could gain control over his vital centres in the brainstem (*The Dynamic Web of Supracortical consciousness*, chapter 9). In the new paradigm, the science of 'Pranayam' would be widely practiced, understood and taught for positive health and even for therapeutic purposes.

10. Reproductive Physiology :

Physiology of controlling Sex (in, *Frontiers of Research for Human Biologists, Next Hundred Years,* chapter 2), Theme of Sex Education (in, *The Dynamic Web of Supracortical Consciousness*, chapter 4), Gonadal basis of Love (in, *The Dynamic Web of Supracortical consciousness*, page 124), the Paradox of Love and Sex (chapter 27, of the present work) and How to Produce a Better Child than One thinks One can (in, *Frontiers of Research for Human Biologist,* chapter 5) are important research frontiers required to be explored for emergence of a new species on this earth.

11. Astrobiology :

The body physiology at different astrphysical planes could be easily worked out. The research pontential and impact of the fig. 18.1 is tremendous.

Impact on Pathology

The impact of the Akhanda Paradigm on the existing science of Pathology could be stated on the following three headings.

A. Understanding of the disease as a spectrum of Health :

Extrapolating Prof. Prigogine's theory, Dr. Larry Dossey of USA, in his book, *Space Time and Medicine*, (1982, chapter, 3), has already pointed out the 'value' of suffering and disease. To remain healthy, one needs to suffer from disease.

Questions like "Does the liver following an episode of acute hepatitis emerge as stronger and healthier or does the heart of an athlete who practices graded vascular insult to heart through during exercise, become healthier", have already started gaining momentum. With advancement in understanding of Integration at the level of cell, tissue, organ and the being as a whole, disease could be classified as disease without loss of final integrity and disease with loss of final integrity. The former could be reversible and the later, irreversible. The former is more in the spectrum of health. The cell, tissue, organ or the being as a whole usually emerges stronger following such diseases. In the second group, the possibility of a new setting of integration in either higher or aberrant directions could be responsible for the disease.

B. Understanding of Etiopathogenesis of Diseases :

1. Because of better understanding of physiology, as mentioned earlier, etiopathogenetic mechanism in general, would be clearer than ever.
2. Pathogenesis of Psychosomatic disease.

   International Academy of Pathology, during Xth World Congress of Pathology in Madrid, Spain, in 1992, gave me the opportunity to present my views in a special complementary session on Humanistics in Pathology, held during the closing ceremony. There, I discussed about the psychic skeleton, its relation with consciousness, biophysical level of cellular integration and the extrapolation of elementary phenomenology on cell biology. This is a totally new frontier for those who are interested in psychosomatic disease.
3. Applications of *Space Time concept* in etiopathology of diseases have already been hinted about in chapter 21.
4. Understanding of some diseases which have definite (e.g. epilepsy, hysteria, schizophrenia, mania etc.) and questionable (e.g. cerebral palsy) supracortical components.

C. Laboratory Medicine :

1. The Akhanda Paradigm sees synchronization of biophysics and biochemistry in near future. The discovery of 'subtle chemicals' is a natural consequence of confirmation and understanding of 'subtle energy'. Once the criteria for iden-

tifying these subtle chemicals are established, their quantification in body fluids in different states of consciousness, in altered psychololgy, in psychosomatic illness, could be new parameters for diagnosis and monitoring of the disease processes.

2. Methodology for evaluating the functions of platelets, the 'sponge' for chemicals (may be for 'subtle chemicals' also), would determine the role of platelets in subtle chemical handling. This would have diagnostic and therapeutic implications.

3. Of the existing investigations, the diagnostic and monitoring value of Trace Elements in blood is expected to expand. The Akhanda Paradigm envisages an establishment of a link between human physiology and the GAIA theory through discovery of role of 'Earthly' elements in human body.

Impact on Pharmacology

1. With Divine Materialism in progress, expensive drugs which are 'poisonous', 'toxic', 'injurious' to physiology, are to disappear. It's impact on pharmaceutical industry and world economy are tremendous.

2. The research work on substances which could modulate 'subtle chemicals' will be taken on priority basis. Immunomodulators are already on the way for the last two decades.

3. With an understanding of the disease process in the biophysical plane, Homeopathic Medicine is bound to come up with a conquering Force. The effect of infinite dilution of drugs and antibodies, effecting to not only the retention of memory of the solute by the solvent but also utilisation of that memory for altering the biophysical state of the cell and tissue, would usher a new era in pharmaceutical industry.

4. Logical revival of Ayurveda and Unani systems are not too far.

Impact on Therapy

1. The Triumph of 'Being therapy' over 'Doing therapy'

Dr. Larry Dossey has already hinted on this point in his book, *Meaning & Medicine* (1992, page 204-205).

At present, the therapy is done on the patient with external substance. This is 'doing' therapy. In the new paradigm, with self-actualisation of the human population along the Great Chain of Being, there would be tremendous consolidation of Being therapy.

Being therapy has grossly two aspects: the 'being' of the physician, and the 'being' of the patient. Under former category are Placebo effect, Therapeutic touch, Faith healing, for example. The latter includes Meditation, Yoga, Relaxation and Biofeed-back techniques. A combination of both are seen in role of Imagery in therapeuties.

2. Diet Therapy :

Naturopathy advocates diet therapy for almost every disease. Proper selection of diet has a definite impact on health and disease. The understanding of the 'Life Force' in the body (chapter 26), will validate the dictum, 'the intake of live-diets (not cooked) brings *life* to the

being'. Fresh fruits, raw vegetables, salads will find their place in diet for different ailments. We have learnt from experiences in India that sugarcane juice definitely has a more beneficial impact in the recovery from hepatitis than glucose drink.

3. Subtle energy Therapy :

Therapeutic implications of subtle energy at different angles and different planes of body are on trial. The application of photon has only been found successful in this direction. Infrared therapy, laser surgery are the examples. The role of phonon and neutrino are to be worked out. Diagnostic value of ultrasound is known. What could be the role of ultrasound in therapeutics? How does one transfrom a misdirected conformon?

4. Brain washing Machine :

With my Theories being worked out, the discovery of a 'Brain washing' machine is on the anvil. What is being done by a faith healer, could be done by a machine. Higher technology will put the whole process under automation. The psychologically disturbed person, could take help of a 'brain washing' machine to get rid of the aberrant, abnormal neuronal reverberation. This would let the 'being' free from his adversaries.

The impact of the Akhanda Paradigm on other disciplines of science like, Astrophysics, GAIA theory, New Physics and Environmental Sciences may be judged by the scientists of respective discipline.

Not the End

'Hello, Mr. Consciousness', 'You have washed our brains', my colleagues commented on my present work on the New Years eve of 1995'. I smiled at their confessions, being fully aware if any of them starts working on my theoretical sketches, the discovery of *a brain washing machine* is not very far.

But washing is only an initial step in this paradigm. The Akhanda Paradigm essentially deals with transformation of the present human race and formation of a new species on this earth.

'You have touched a sensitive front of spirit-nature relationship. Could you please brief it once more?', one of my friends asked. I felt it is a point worth explaining because unless the intriguing relation of nature and spirit is clear, it is not easy to proceed on transformation or new formation. So, I continued,

> "That's the spirit which overcomes, surpasses, transcends, integrates and transforms nature, — a definition of spirit in relation to nature. The knowledge of the intricacies of nature is essential to have a mastery over nature and the mastery over nature is essential for the spirit within the brain to merge with the spirit in the cosmos."
>
> "A spirited individual," I continued, "usually does not discuss the nature of other. In unusual circumstances, where he is found to get involved in such a discussion, he is surely absorbed in the process of transformation of nature."
>
> "The spirit within you makes you ascend initially according to propensity of your nature and eventually transcends, integrates, and transforms nature. The word 'confrontation' is nowhere there in this journey. On the threshold of confrontation, the spirit remains actively silent. When your nature becomes Mother Nature, you are consciousness."
>
> "The spirit has complete mastery over nature. This mastery is so pure and perfect, harmonious and blissful, that nature becomes an ever-inseparable chum with it", I paused.

'How does the human body function in three dimensional plane when it senses n-dimensional abstract?', one of my friends asked. I wondered at their inquisitiveness. "The human brain is the only living system I know of, which is responsible for a step-down transformation of supracosmic consciousness to brain-consciousness and cellular consciousness", I replied.

Before I finished my last sentence, another friend passed a remark, 'Why do you acknowledge others calling you, Mr. consciousness? Is it not audacity on your part?'. I received the thundering stroke on my most sensitive chord. I started glaring at the clouds on the top of my head. When the people without even glimpsing at Mother Nature claim to be naturalist, when the scientist without understanding what whole he is 'reducing', claims to be an unashamed

reductionist, when merely knowing a few set of pattern of responses, the neurophysiologists level themselves as behaviorists and people after doing experiments on some higher functions of the brain claim to be functionalists and advocate that consciousness is function of the neurons, is it not also blasphemy on my part to make the finger pointing at the moon, more important than the moon itself?

Fortunately, my response came sharp. With all humility and politeness, I put it in record, "that none in this universe or elsewhere could be equivalent to consciousness or could be called, Mr. Consciousness. None includes me too. On the other hand, everyone and everything in this universe or elsewhere is consciousness. Everyone includes me also. Neither my friends nor me is out of this paradox". But that is not the point.

The point is that on one auspicious day my brain had been cracked by executive front of consciousness, i.e. Mother Nature. Months later, self-organization began, again by the kind Grace of Mother Nature. The pieces of brain started a new alignment. I was totally unconscious-ness about the happenings. The unconsciousness was so deep at times that my friend used to remind me about 'time', my other responsibilities or even of food, calling me, wittingly, 'Mr. consciousness'. I was even completely unaware of what all works had already been done in frontiers of neurosciences and in high energy physics. Later, I came across an enormous amount of literature, both sacred and profane, and during synthesis, *the consciousness* remained as only constant and all other man-made constants were found to be flux in nature. During all these meeting, bifurcation, turning points, when someone called me, 'Mr. consciousness', because my only constant has been consciousness, I liked it. Probably this satisfied my growing mortal ego.

The more I grow, the more tiny I feel, the more I am ashamed of my audacity. What a tiny drop to boast in front of an ocean! What a little ray to show light to the stars! I know myself. During my solitary effort to disentangle the different knots in companionless stark silence, a loving voice continuously whisphered in my ears, **'It is just a beginning and not the end'.**

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In India and abroad, he is known for his new ideas, integrating Science, Humanity and Spirit. In 1985, he coined the term and concept of Supracortical Consciousness. Following a decade of journey, he has come out with a new paradigm, the paradigm of Consciousness-Mother Nature which, from a very broad view point, he subtitles, **Towards the Akhanda Paradigm.** For his work in 1988, he became a member of the National Academy of Medical Sciences, India. At present, he is also a member of the Society for Scientific Exploration, USA, The Scientific & Medical Network, UK, International Society for Philosophical Enquiry, USA and an Honorary affiliate of the Center of Frontier Sciences, Temple University, USA.

SOME COMMENTS ON AUTHOR'S PREVIOUS WORK

1. **The Dynamic Web of Supracortical Consciousness (1987)**
2. **Frontiers of Research for Human Biologists (1985)**

1. "The unifying power of your consciousness, more exactly : of the cosmic consciousness incarnated in your psycho-physical existence and communicating there with brain-stem, limbic-, cortical consciousness, creates a grandiose holistic view and combines traditional Indian religio-philosophical knowledge with modern neuroscience and genetics."

- **Prof. Dr. med. C. Scharfetter.**
  Psychiatrische Universitatsklinik, Zurich.

2. "They are remarkable documents. Of course you are correct : medical science must find ways of bringing mind and spirit back to the life sciencs, for without them medicine is incomplete. Your work is an important step in that direction. The vast spectrum of material you synthesize is very thrilling, not many persons could do it. The way you have woven ancient and modern concepts together in a disciplined way deserves the greatest recognition."

- **Larry Dossey, USA**

3. "Basically your thesis looks most interesting and entirely fits in with scalar field hypothesis."

- **Julian Kenyon,**
  The Centre for the Study of Complementary Medicine, UK.

4. "The book presents a new revolutionary approach to the problem of consciousness and its relation to physics and biology"

- **Prof. dr. hab. Janusz Slawinski, Instytutu Fizyki, Poland.**

5. "It looks like a monumental piece of work".

- **Prof. V. S. Vaidhyanathan.**
  University at Buffalo, State University of New York, U.S.A.

6. "The author's work is Phenomenal" -

- **Prof. G. Gopinath. Head, Dept.of Anatomy, AIIMS, New Delhi.**

7. "This book is a compilation of the author's insights, thoughts, and ideas on the subject of consciousness. The author, who is a medical doctor,----is revealing his original hypotheses on consciousness, meditation and imagination "

- **Frontier Perspectives, 4(1), 44, 1994,**
  The Center for Frontier Sciences, at Temple University, USA.

8. "This beautiful booklet is a call for scientist to explore further the interrelation between biology and evolution on the one hand and philosophy and science on the other, and probe deeper into the concepts of consciousness and Love".

- **Ancient Science of Life, V(2), 133-134, 1985.**

9. The booklet (1985) containing a number of articles which set a wider context for biological research.

- **Network, 53, p30, 1993, UK.**

CONQUERING THE BRAIN

The work holds the view that the purpose of evolution of brain is to establish identity of consciousness without and consciousness within, following which the brain acts as 'transmissive' for a purposeful manifestational scheme of Consciousness -Mother Nature.

Though the transmissive view for the brain had been nurtured in the East long before the West started its chronological record keeping, it has been thundered from India in the twentieth century by Sri Aurobindo. Almost throughout this century, Akhandamandaleswar Sri Sri Swami Swarupananda Paramahansa Dev, a personification of the Essence of the Multiversity, had consolidated the Himalayan task of human resource development for birth of a new species on this earth. Though the transmissive view could be traced in the works of Western thinkers, like F.C.S. Schiller in Riddles of the Sphinx (1891), Sir William James in Human Immortality (1899), Bergson in L'Energie Spirituelle (1919), Carl Jung in Collective Unconsciousness (1930s) and more recently in the comments of Wilder Penfield and finally during terminal transformation of Nobel Neurophysiologist Roger Sperry (1994), all of them essentially had looked forward to a new beginning. The present work, in fact, is a long lay out following this *new beginning.*

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